

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 461	07-00010-12-BR	TAZEWELL	91	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO.	89634	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

PLANS FOR PROPOSED

MAJOR BRIDGE PROGRAM

**F.A.S. 461 / C.H. 16 / MANITO ROAD
OVER MACKINAW RIVER
SECTION 07-00010-12-BR
PROJECT BRS-0461(120)
TAZEWELL COUNTY
C-94-024-13**

INDEX OF SHEETS

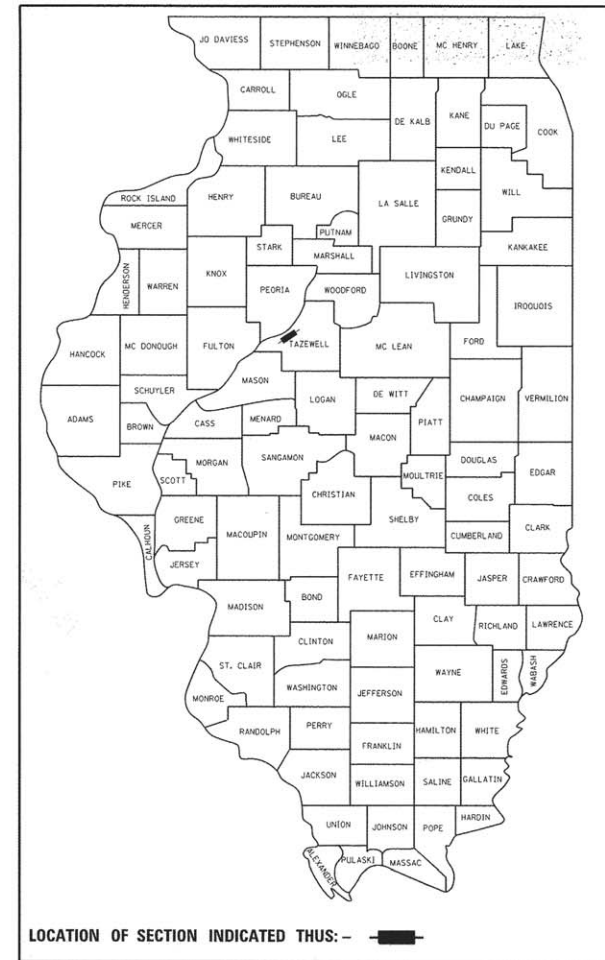
SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, STANDARDS & MIX DESIGNS
3.	SUMMARY OF QUANTITIES
4-5.	TYPICAL SECTIONS
6.	SCHEDULE OF QUANTITIES
7-10.	PLAN AND PROFILE SHEETS
11-12.	DETOUR PLAN
13.	EROSION CONTROL PLAN
14.	PAVED SHOULDER LAYOUT
15.	GUARDRAIL LAYOUT
16.	PAVEMENT MARKING LAYOUT
17.	ENTRANCE, BUTT JOINT AND GUARDRAIL DETAILS
18.	SLOPE STEP DETAILS
19-57.	STRUCTURE PLANS
58-63.	BORINGS
64.	ROCK CORE LOGS
65-91.	CROSS SECTIONS
92-125.	EXISTING STRUCTURE PLANS

8/30/16

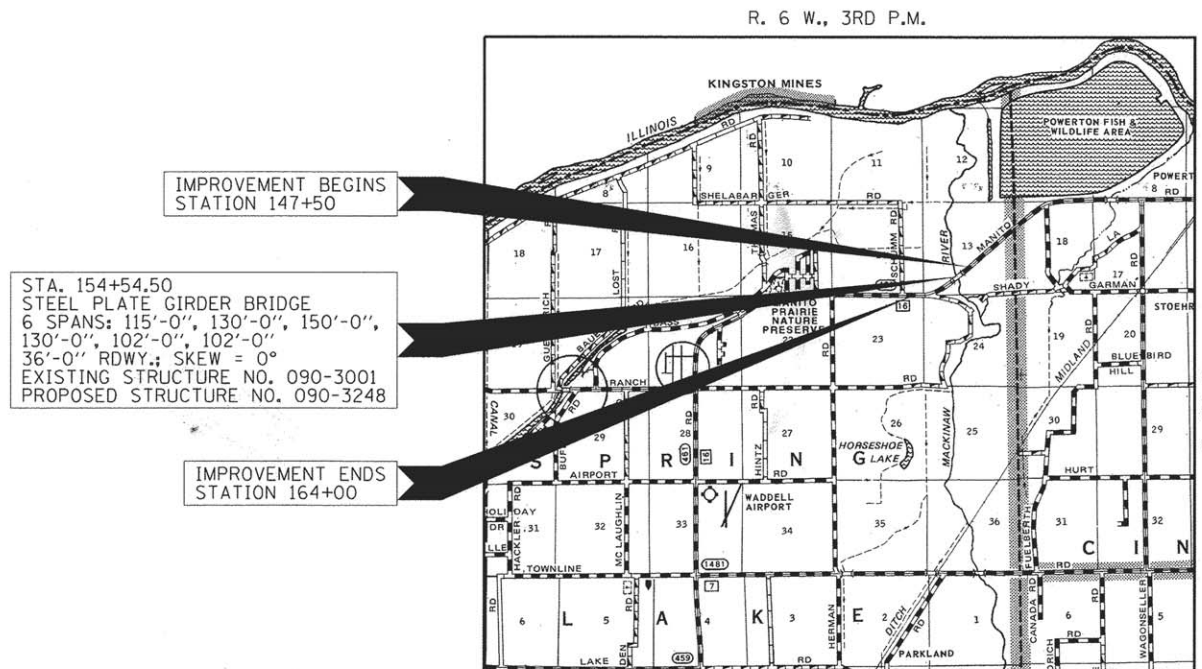
UTILITIES

AMEREN / CILCO
300 LIBERTY STREET
PEORIA, IL 61602
309-693-4730

GALLATIN RIVER COMMUNICATIONS
200 ENTERPRISE DRIVE
PEKIN, IL 61554
309-477-0255



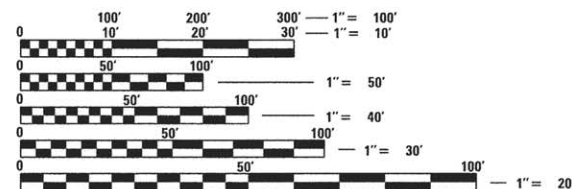
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
DESIGN SPEED: 55 MPH
DESIGN TRAFFIC: 12824 ADT (2036)



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE

NET LENGTH OF SECTION = 1650 FEET = 0.313 MILES
GROSS LENGTH OF SECTION = 1650 FEET = 0.313 MILES
ROADWAY LENGTH = 914 FEET = 0.174 MILES
BRIDGE LENGTH = 736 FEET = 0.139 MILES



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

CATALOG NO. 034898-00

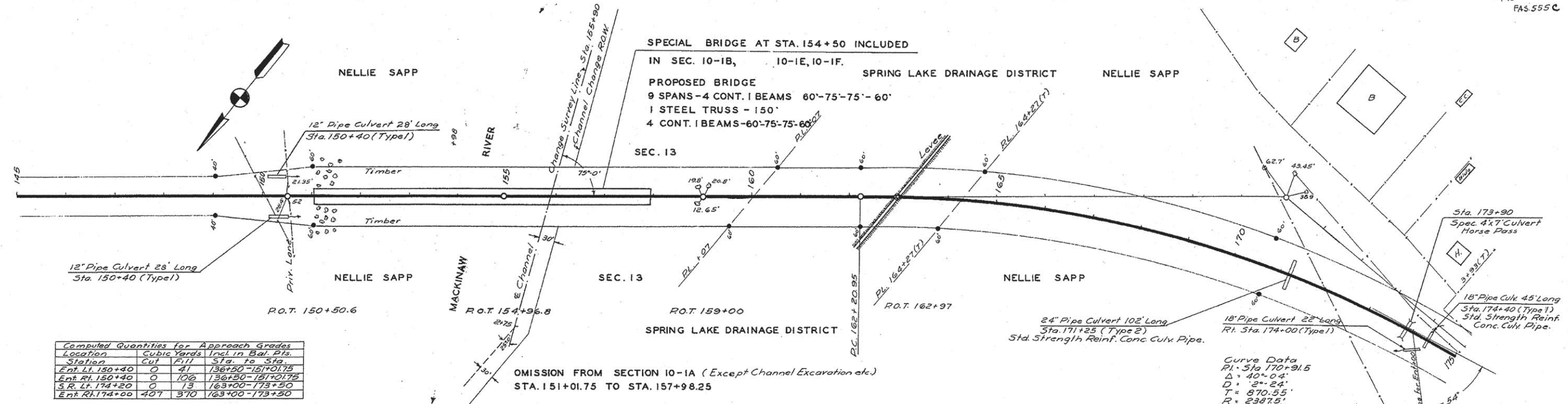
CONTRACT NO. 89634 PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS



ILLINOIS DEPARTMENT OF TRANSPORTATION	
APPROVED	<i>July 5, 2016</i> <i>Ray Fuchs</i> COUNTY ENGINEER
PASSED	<i>July 6, 2016</i> <i>Ray Fuchs</i> DISTRICT FOUR ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	<i>July 6, 2016</i> <i>Kevin A. Givette</i> REGION THREE ENGINEER
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	



HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com



Computed Quantities for Approach Grades

Location	Cubic Yards	Incl. in Bal. Pts.
Station	Cut	Fill
Ent. Lt. 150+40	0	41
Ent. Rt. 150+40	0	106
S.R. Lt. 174+20	0	13
Ent. Rt. 174+20	407	370

VARIABLE WIDTH OF ROADBED FROM
STA. 150+51.7 (40') TO STA. 151+01.7 (34')
STA. 157+98.2 (34') TO STA. 158+48.2 (40')

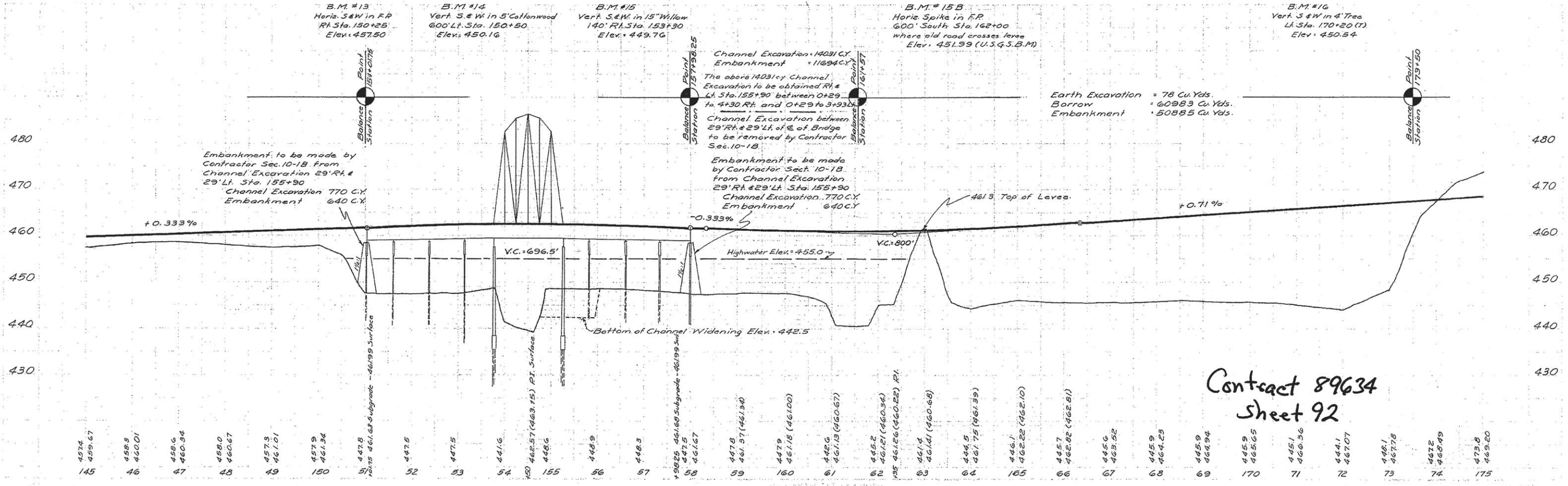
Clearing Sta. 158+25 to Sta. 160+95.0 = 0.80 Acres.
Clearing Channel Rt. & Lt. Sta. 155+90 = 1.71 Acres.
TOTAL = 2.51 Acres.

NOTE Channel Clearing shall extend to Channel Right of Way Line.

Curve Data
P.I. Sta. 170+91.5
Δ = 40°-04'
D = 2'-24"
T = 870.55'
R = 2387.5'
L = 1669.44'
S = 153.75'
S = 0.025 ft/ft
S.E. attained Sta. 161+51 to Sta. 162+91
Sta. 178+20 to Sta. 179+60
P.C. = Sta. 162+20.95
P.T. = Sta. 178+90.39

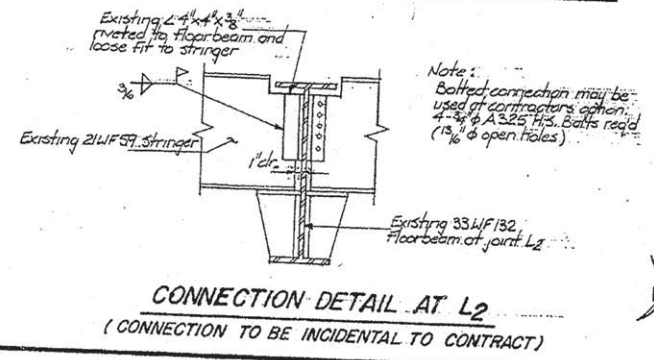
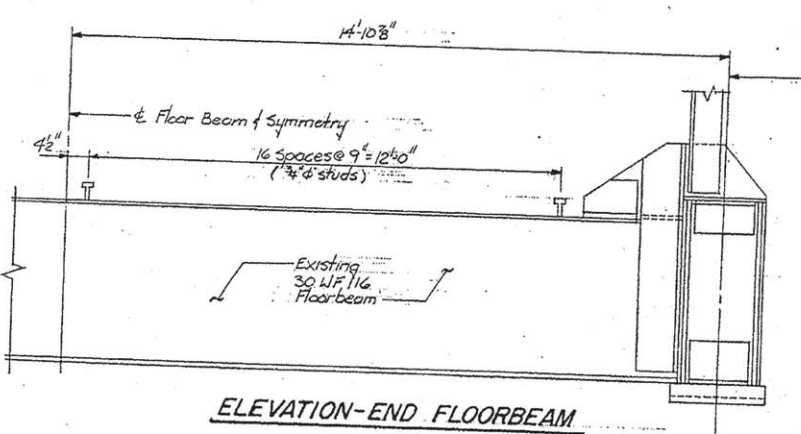
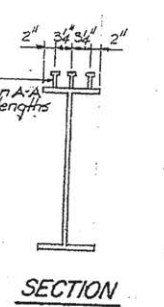
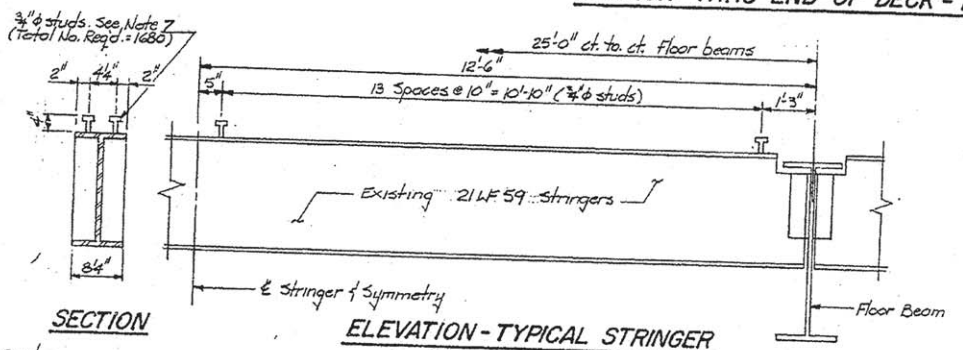
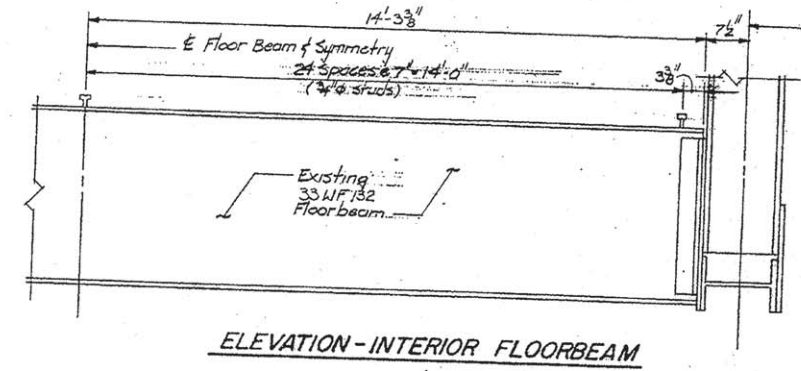
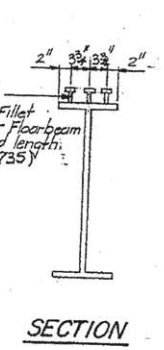
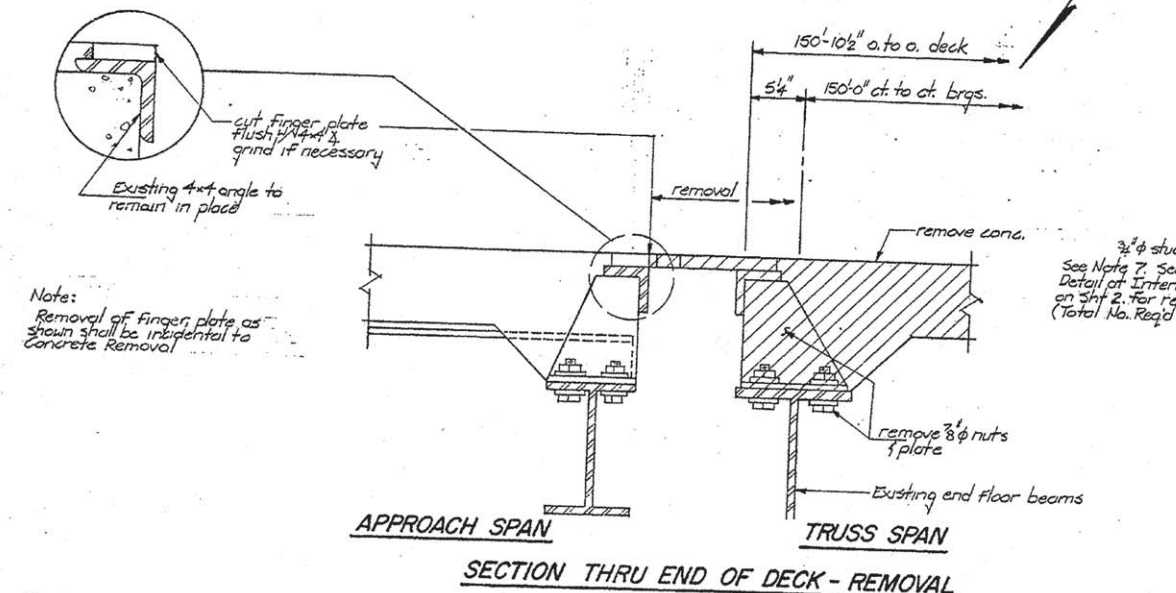
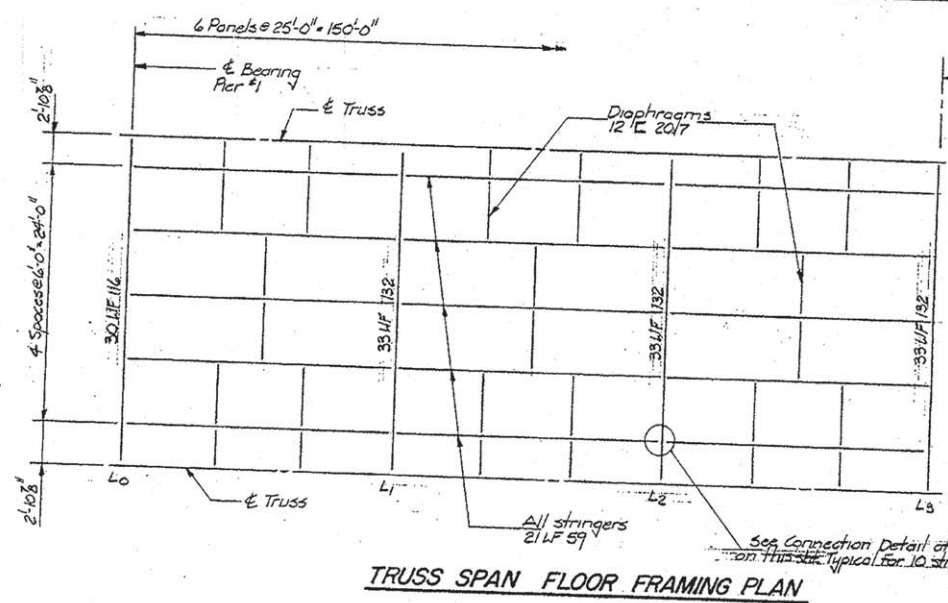
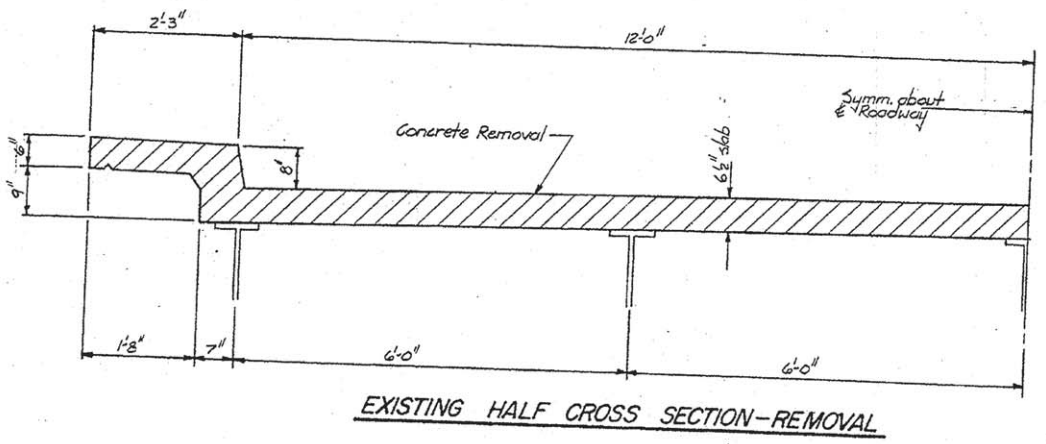
R.M. Johnson
J.O. Pakorny
A.E. Day

115/115



Contract 89634
Sheet 92

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
SA-10-A-10-1-B		TAZEWELL	2	1
FED. ROAD DIST. NO. 1			ILLINOIS PROJECT	



GENERAL NOTES

- All work shall comply with the Standard Specifications for Road and Bridge Construction dated October 1, 1979.
- Expansion joint angles, plates, and attached bars shall be AASHTO M 183 and shall be shop pointed with two coats of basic lead silico chromate paint.
- Plan dimensions and details relative to existing structure have been taken from existing plans and drawings. Subject to final construction verification, it shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of material. Such variations shall not be cause for additional compensation. The Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
- Class X concrete shall be used throughout.
- Protective coat shall be applied to the top and sides of the deck slab.
- The studs to be welded to the top flange of the stringer and floor beam shall be 3/4" granular or solid flux filled headed studs automatically end welded.
- The floor system (floorbeams, stringers, diaphragm and connections) shall be cleaned and painted in accordance with Article 509.06 of the Standard Specifications. The top of stringer and floor beam flanges shall be cleaned according to Method I. All other steel shall be cleaned according to Method II. This item shall be paid for of the contract lump sum price for cleaning & painting. Approximate quantity of floor system structural steel = 85,000#.
- Field welding of construction accessories will not be permitted to the bottom flange of stringers or floorbeams.

Contract 89634
Sheet 93

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Stud Shear Connectors	Ea.	2619
Cleaning & Painting	Lump Sum	1
Concrete Removal	Cu. Yds	91.7

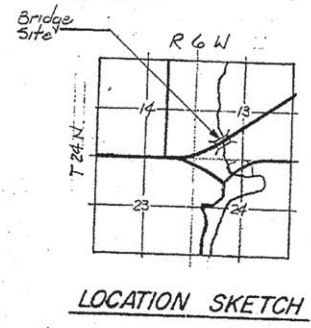
REMOVAL & STRUCTURAL STEEL DETAILS
TRUSS SPAN DECK REPLACEMENT
BRIDGE OVER MACKINAW RIVER
SA. RTE. 10-A SEC. 10-1-B
TAZEWELL COUNTY
STATION 154+50

DESIGN STRESS

$F_c = 3,500$ psi
 $F_y = 60,000$ psi (Reinf. deck slab) LFD
 $F_s = 18,000$ psi (Exist. structural steel) WSD
 $n = 9$
Design Live Load HS 15-44
Designed using 1977 AASHTO Specifications and all subsequent interims

TOTAL BILL OF MATERIALS

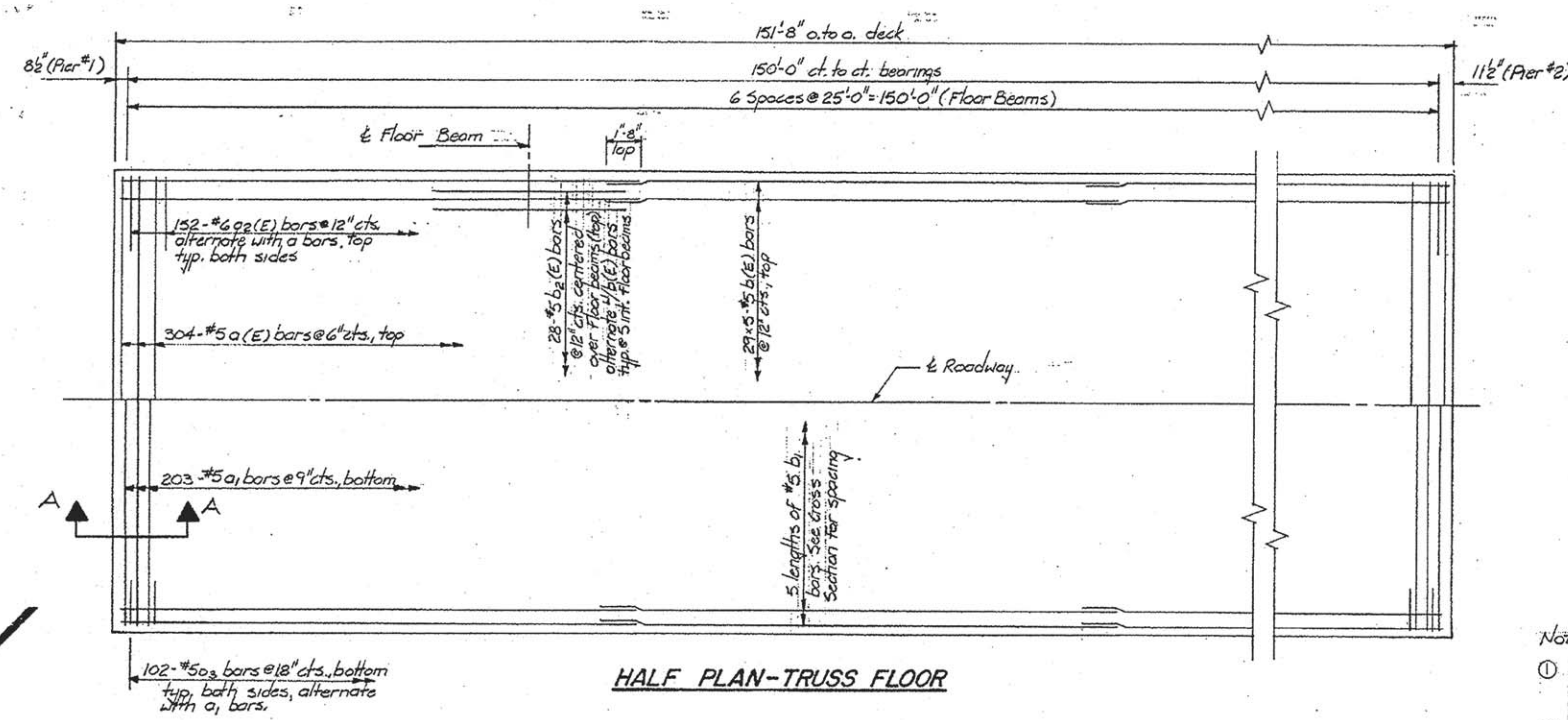
ITEM	UNIT	QUANTITY
Class X concrete	Cu. Yds.	106
Reinf. Bars (Epoxy Coated)	Lbs.	17,211
Reinforcement Bars	Lbs.	11,290
Protective Coat	Sq. Yds.	501
F&E Structural Steel	Lbs.	2063
Preformed Joint Sealer (4')	Lin. Ft.	57
Stud Shear Connectors	Ea.	2619
Cleaning & Painting	Lump Sum	1
Concrete Removal	Cu. Yds	91.7



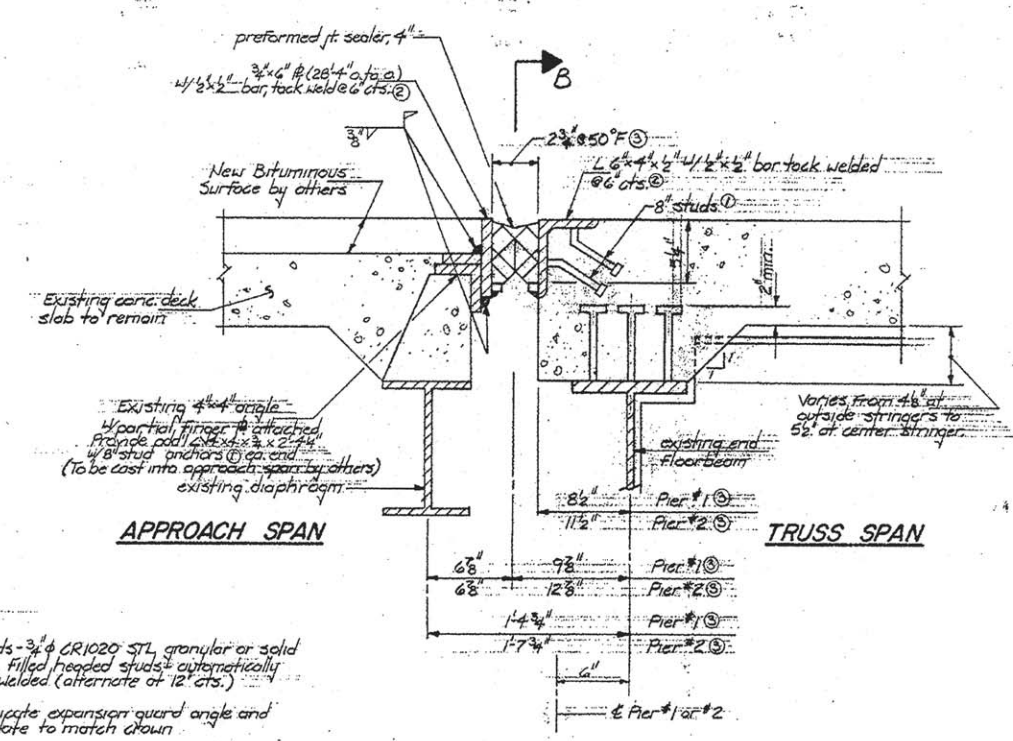
OVERSEEN BY: JRC
CHECKED: DNF
DRAWN: KMS
CHECKED: DNF

HANSON ENGINEERS
INCORPORATED
SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS

FILE NO. 80P1031
DATE 8-6-80



HALF PLAN-TRUSS FLOOR

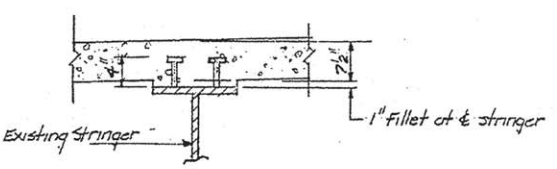


APPROACH SPAN

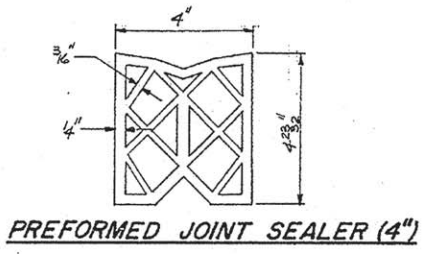
TRUSS SPAN

SECTION A-A

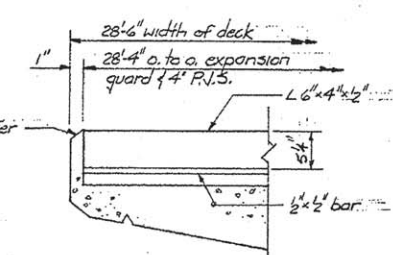
- Note:
- Studs - 3/4" CR1020 STL granular or solid flux filled headed studs automatically end welded (alternate at 12" cts.)
 - Fabricate expansion guard angle and 6" plate to match down
 - Dimensions are for a temperature of 50°F at time of erection. For adjustments due to differing temperatures, assume a change in length at Pier #1 and #2 changes in length at Pier #2 for 50°F change in temperature.



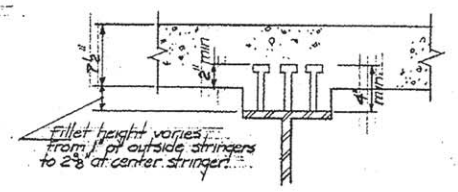
FILLET DETAIL (at typical stringer)



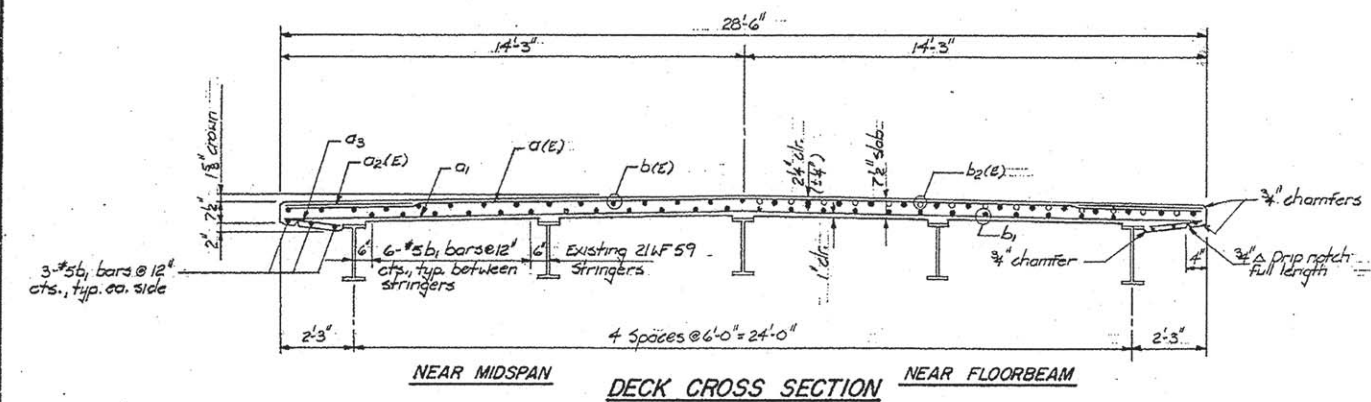
PREFORMED JOINT SEALER (4")



SECTION B



FILLET DETAIL (at interior floorbeam)



DECK CROSS SECTION

BILL OF MATERIAL

Bar	Size	No.	Length	Shape
a (E)	#5	304	28'-3"	
a1	#5	203	28'-3"	
a2 (E)	#6	304	3'-9"	
a3	#5	204	1'-8"	
b (E)	#5	145	3'-8"	
b1	#5	150	3'-8"	
b2 (E)	#5	140	12'-0"	
Class X Concrete		Cu Yds.	106	
Reinf. Bars (Epoxy Coated)		Lbs.	17,211	
Reinforcement Bars		Lbs.	11,290	
Protective Coat		Sq Yds.	501	
P.F.E. Structural Steel		Lbs.	2,063	
Preformed Joint Sealer (4")		Lin Ft.	57	

Bars indicated (E) shall be epoxy coated. See Special Provisions.

Contract 89634
Sheet 94

SUPERSTRUCTURE TRUSS SPAN DECK REPLACEMENT BRIDGE OVER MACKINAW RIVER SA Rte. 10-A SEC. 10-1-B TAZEWELL COUNTY STATION 154+50

DESIGNED: J.P.C.
CHECKED: D.M.F.
DRAWN: K.M.S.
CHECKED: D.M.F.

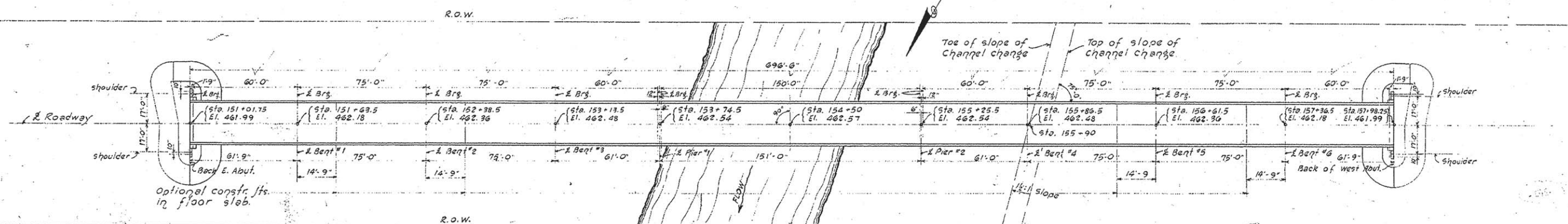
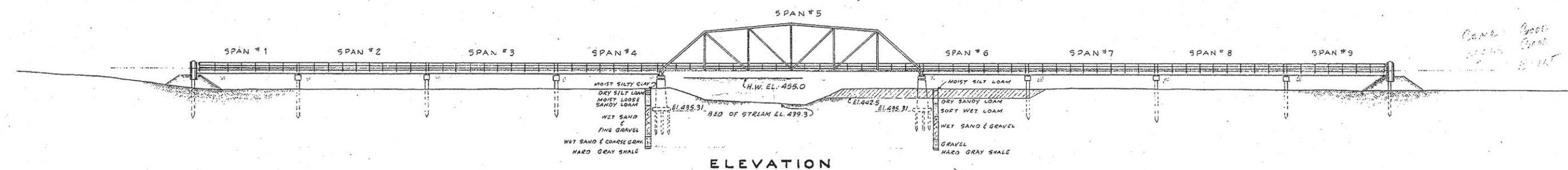
HANSON ENGINEERS INCORPORATED

FILE NO. 80P1031
DATE 8-6-80
SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS

3.M #15 VERT. S. & W. IN 15" LEANING WILLOW 140' RT. STA. 153+90, EL. 449.76
 (U.S.G.S. DATUM - 1929 ADJUSTMENT)
 NO EXISTING STRUCTURE

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 1
5-A	10-1-B	Tazewell	3	11 SHEETS
10-A	10-1-F			

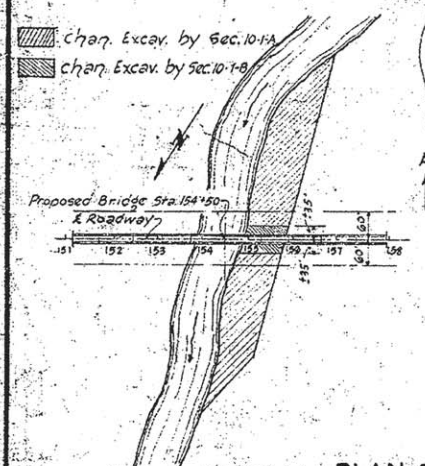


PLAN
 SCALE 1" = 30'-0"

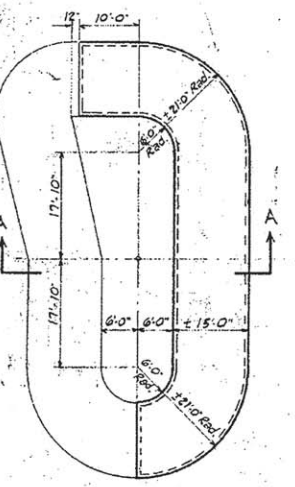
WATERWAY INFORMATION

DRAINAGE AREA ----- 766,000 ACRES
 CHARACTER ----- ROLLING & CULTIVATED

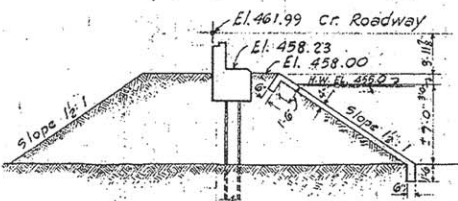
EXISTING BRIDGE OPENING STA. 53+10 ----- 2180 50. FT.
 PROPOSED BRIDGE OPENING STA. 154+50 ----- 5825 50. FT.
 TOTAL BRIDGE OPENING PROVIDED (BOTH BRIDGES) ----- 8005 50. FT.
 EQUIVALENT TO C = 31' (TALBOT) ✓



LAYOUT SKETCH
 SCALE 1" = 200'-0"



PLAN OF SLOPE WALLS E. & W. ABUTMENT
 SCALE 1" = 15'-0"



SECTION A-A

Embankment for W. Abut. Est. 640 Cu. Yds.
 Embankment for E. Abut. Est. 640 Cu. Yds.
 Channel Excavation required for Embankments by contc. for sec. 10-1-B. Est. 1500 Cu. Yds.

The embankments shall be constructed in accordance with section 13 of the specifications.

Embankments for abutments shall be completed before the superstructure is placed.



CAMBER DIAGRAM

GENERAL NOTES

Class X concrete shall be used throughout except as noted.

Class A concrete shall be used in Piers.

Concrete floor slab shall be finished in accordance with Art. 573 (e) of the Standard Specifications.

The concrete floor slab shall be poured in one continuous operation between the construction joints shown on the plans. No additional construction joints will be allowed without the written permission of the Engineer.

Premolded joint filler shall conform to Article 105.05 to 105.09 inclusive of the supplemental specifications.

Slope wall shall be reinforced with welded wire fabric, 6" x 6" mesh, #4 wires weighing 58 lbs per 100 sq ft.

Rivets, O.H. for approach spans and rivets, O.H. for truss span except as noted.

All connections shall be riveted except as noted.

All splices for stringers shall have rivet holes sub-punched 3/8" and reamed to 1/2" with all stringers of a continuous unit assembled in the shop in their proper positions and with or without diaphragms in place. Leave assembled for shop inspection.

See sheet 2 and special provisions for field reaming of rail post conns. and alignment of railing. Provide one lock washer on all bolts connecting rail to post. Also provide 1" x 1/2" and 1" x 5/8" skims for rail connections to 50% of posts.

Inspection of structural steel by Illinois Division of Highways before painting.

All Rollers, Rockers, Bearing Plates, Lead Plates, and Anchor Bolts shall be finished, painted and set in accordance with Art. 503 (d) of the supplemental specifications and are included for payment as "structural steel."

Anchor Bolts shall be set before riveting diaphragms over Abutments, Bents, and Piers.

All structural steel shall receive one shop coat of red lead paint, after inspection - Sec. 10-1-F.

All structural steel shall receive two field coats of aluminum paint - sec. 10-1-E.

All paint shall be furnished by contractors as designated. See spec. Provisions regarding painting of top flanges of I-beams over bearings.

Aluminum paint shall conform to the requirements of the specifications for aluminum paint issued by the Department, serial 7-M-36-34.

Paint for spot painting of rivet heads and abrasions to shop coat of paint shall be red lead paint. Paint shall be furnished and applied by the contractor for sec. 10-1-E.

The contractor shall drive two timber test piles and four precast concrete test piles for Alternate A, or two timber test piles and four metal shell test piles for Alternate B, or Alternate C, as directed by the Engineer before ordering or casting the remainder of piling.

Boring data are shown on the drawings only as a guide to bidders in estimating soil conditions which may be encountered in the work.

TOTAL BILL OF MATERIAL FOR SEC. 10-1-B

ITEM	ALTERNATE A	ALTERNATE B	ALTERNATE C
Class X concrete	Cu. Yds. 491.7	491.7	491.7
Class A concrete	Cu. Yds. 269.9	269.9	269.9
Reinforcement Bars	Lbs. 112,320	112,320	112,320
Floor Drains	Each 24	24	24
Untreated Timber Piles (25'-0")	Lin. Ft. 1850	1850	1850
Timber Test Piles	Each Two	Two	Two
Slope wall	90 Yds. 420	420	420
Channel Excavation	Cu. Yds. 1540	1540	1540
Metal pile shoes	Each 74	74	74
Class X concrete (caps & cols)	Cu. Yds. 79.6	79.6	79.6
Reinforcement Bars (caps & cols)	Lbs. 6170	6170	6170
Pre-cast concrete Piles (45'-0")	Lin. Ft. 2070	2070	2070
Pre-cast concrete Test Piles	Each 4	4	4
Furnishing Metal Pile shells	Lin. Ft. 1610	1610	1610
Driving & Filling shells (35'-0")	Lin. Ft. 1610	1610	1610
Furnishing Driving & Filling Metal pile shells (35'-0")	Lin. Ft. 1610	1610	1610
Metal Shell Test Pile	Each 4	4	4

TOTAL BILL OF MATERIAL FOR SEC. 10-1-E, 10-1-F

ITEM	QUANTITY
Structural Steel	Lbs. 649,240

COMPUTED	C. M. HAZLETT	EXAMINED	H. F. BURCH
CHECKED	R. E. BROWN	PASSED	[Signature]
DESIGNED	C. W. HAZLETT	APPROVED	[Signature]
CHECKED	R. E. B.		
ASSEMBLED			
CHECKED			

REVISED FEBRUARY, 13, 1940 - GRADE RAISED 2 FT. PILE BENTS REVISED MAY 9, 1940

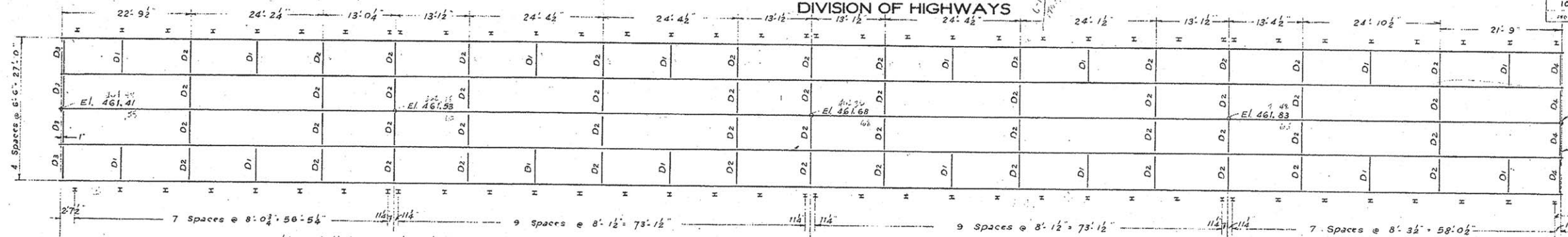
Contact 89634
 Sheet 95

BRIDGE OVER MACKINAW RIVER
 F.A.S. PROJECT 555-C
 S.A. RT. 10-A - SEC. 10-1-B-1-F-1-E
 TAZEWELL COUNTY
 STA. 154 + 50

T-15 LOADING

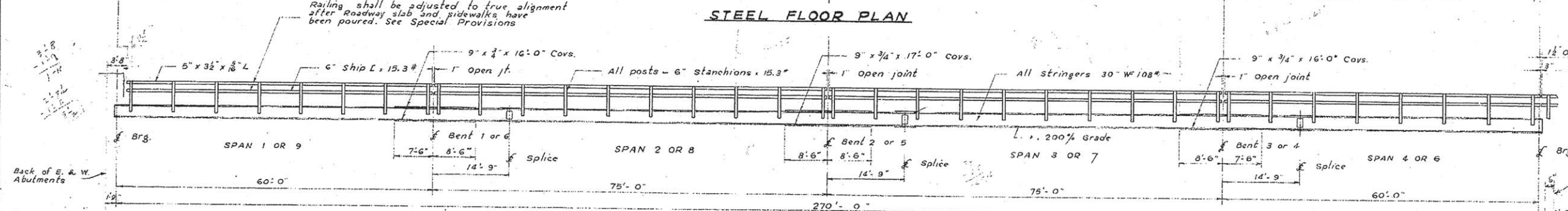
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50A 10A	10-1B 10-1E 10-1E	Tazewell	14	4
PROJ. ROAD DIST. NO. 3	REVISIONS	1 TO 40 PROJECT	555	



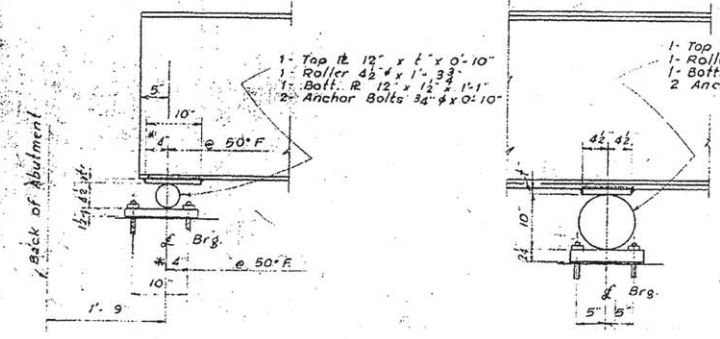
STEEL FLOOR PLAN

Elevations are given for Top Flange (not cover pl) of center stringer.
Elev. 461.95
For location of Diaphragm D4 see Sheet No. 3



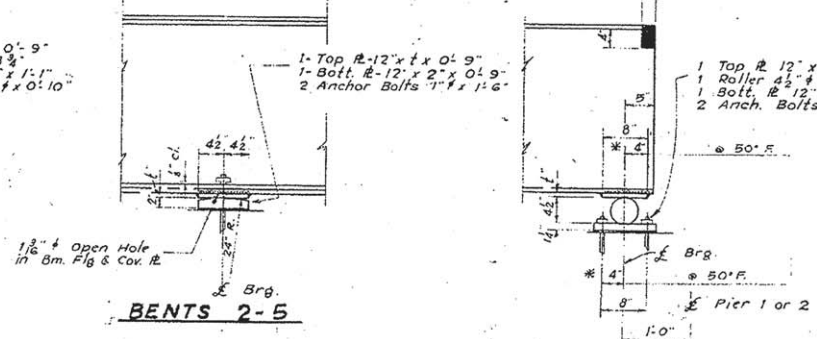
SIDE ELEVATION

NOTE TO ERECTOR
Increase each dimension by the same amount if abutment has moved or if temperature is over 50°F. Decrease each by the same amount if temperature is below 50°F.



E-W ABUTMENTS

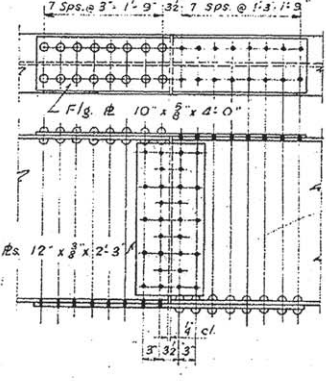
BENTS 1-3-4-6



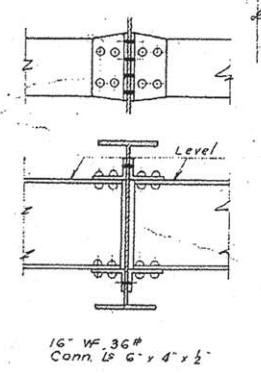
BENTS 2-5

PIERS 1-2

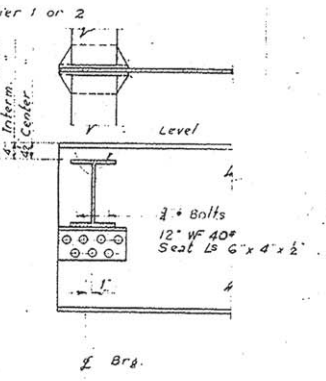
NOTES ON BEARINGS
All top bearing plates shall be welded to stringers by 1/4" continuous welds on four sides.
Lead R#s, 1/8" thick, shall be used under each bottom brg. R. Lead R#s are included for payment as Structural Steel.
Thickness "t" for top brg. plates shall be as follows:
1/4" for outside stringers
1/2" - Intermed.
2/4" - Center



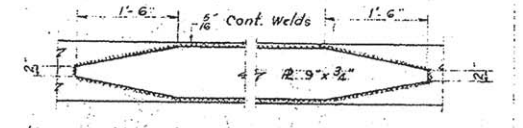
STRINGER SPLICE DETAIL
30 SETS REQUIRED



DIAPHRAGM D2

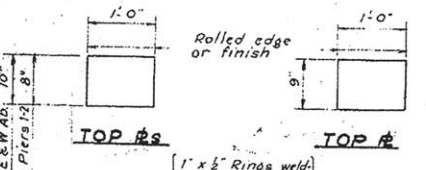


DIAPHRAGM D3



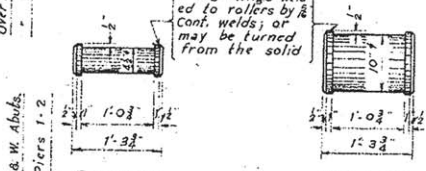
COVER PLATE DETAIL

Continuous welding of cover R#s to stringers shall be made in such a manner as to prevent buckling or warping of the main material. The cov. R#s shall be clamped securely to the stringer R#s before welding. The skip-step back method of welding or other effective means shall be used, if necessary, to obtain satisfactory results.



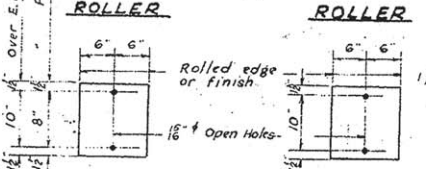
TOP R#s

TOP R#



ROLLER

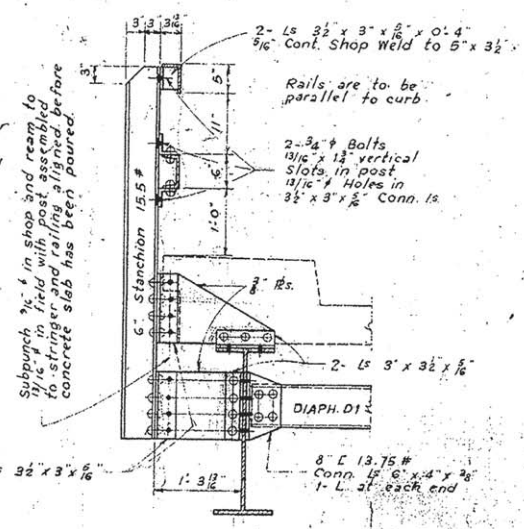
ROLLER



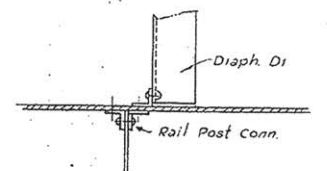
BOTT. R#s

BOTT. R#

TOP & BOTT. R#s



DETAIL OF RAIL
144 POSTS REQUIRED



PLAN SHOWING CONNECTION OF DIAPHRAGM D1 AT OUTSIDE STRINGERS

STANDARD	COMPUTED	R. E. Berman	EXAMINED	1-30-1940
	CHECKED	C. M. Higgins		BRIDGE ENGINEER
SPECIAL	DRAWN	R. E. B. HARRY D. TEEFT JR.	PASSED	
	CHECKED	CHAD		ENGINEER OF DESIGN
	ASSEMBLED		APPROVED	
	CHECKED			GROUP HIGHWAY ENGINEER

BRG. DETAILS FOR E. & W. ABUTS & PIERS 1-2

BRG. DETAILS FOR BENTS 1-3-4-6

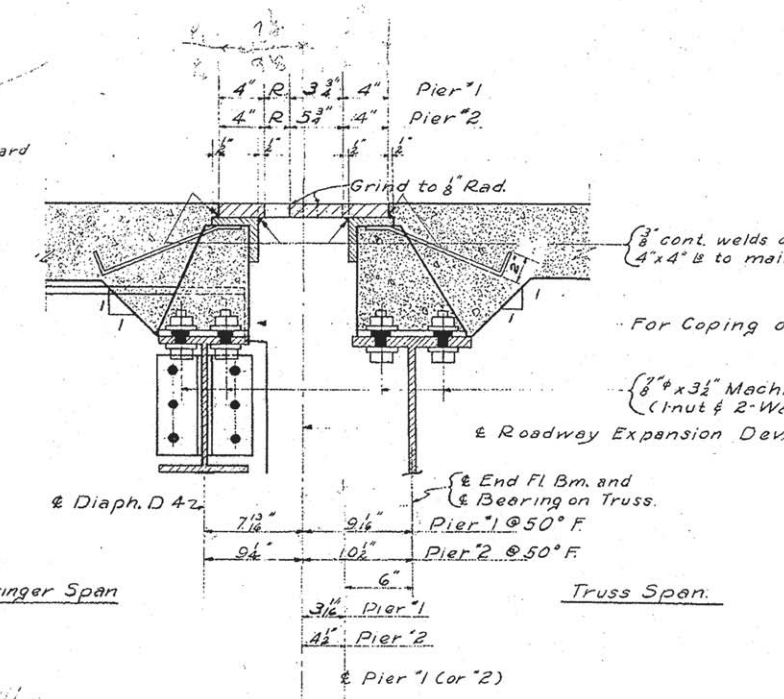
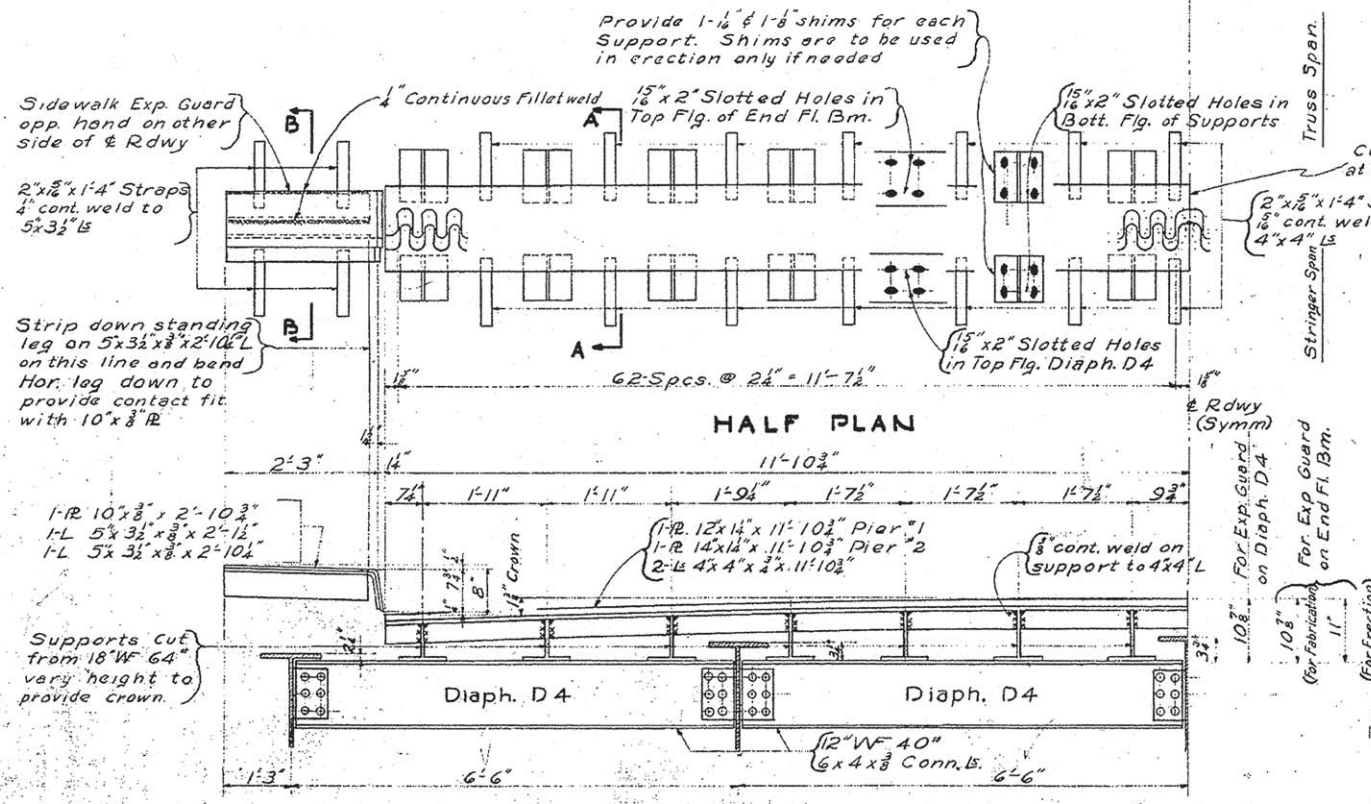
BRG. DETAILS FOR BENTS 2-5

Contract 89634
Sheet 96

F. A. S. PROJECT 555-C
S. A. RTE. 10-A - SEC. 10-1E-1F
TAZEWELL COUNTY
STA. 154 + 50

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
5-A, 10-1B	10-1E	Tazewell	14	5	11 SHEETS
10A	10-1F				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	555		



NOTES FOR EXPANSION GUARDS

Roadway Expansion Guards shall be fabricated to fit the crown of the Roadway.

Copper bearing steel (A.S.T.M. designation A7 with 0.2% copper added) shall be used in the 12" x 14" R's, 14" x 14" R's, and 4" x 4" x 3/8" L's in the Roadway Expansion Guards and the 10" x 3/8" R's and 5" x 3 1/2" x 3/8" L's in the Sidewalk Expansion Guards.

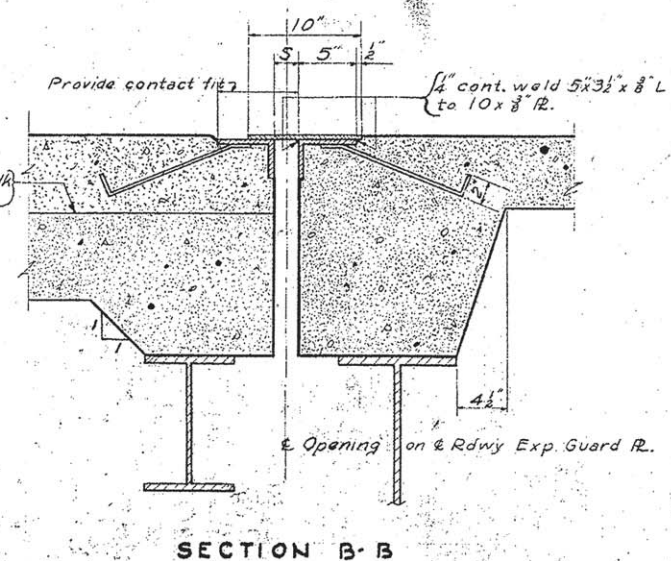
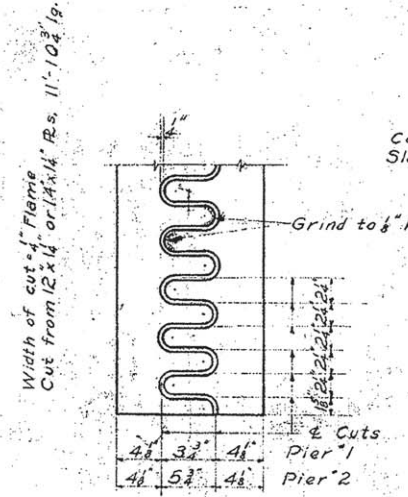
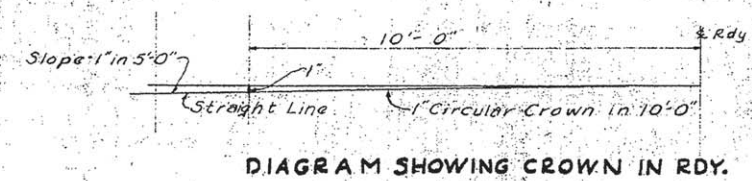
Expansion Guards are included for payment as Structural Steel.

Paint surfaces that are inaccessible after erection with two shop coats of paint; other surfaces one shop coat; except for straps which shall not be painted.

When erecting Roadway Expansion Guards over Piers #1 and #2 an allowance of 8" shall be made for deflection at the & Roadway in the End Fl. Bms. of Truss Span.

Expansion Guard Est. wt. 6880" Included as Structural Steel.

Sidewalk expansion guards shall be stored by the contractor for sec. 10-1-e as directed by the Engineer and shall be installed by the contractor for section 10-1-b. Payment for installing sidewalk expansion guards shall be included in the contract unit price per cu. yd. for class "X" concrete.



DIMENSIONS "R" & "S" TO BE USED IN ERECTION OF EXPANSION GUARDS

TEMPERATURE	PIER #1		PIER #2	
	R	S	R	S
0° F.	12"	26"	33"	33"
25°	13"	18"	2 1/2"	3 1/4"
* 50°	13"	18"	2 1/2"	2 1/2"
75°	16"	18"	1 1/2"	1 1/2"
100°	8"	16"	1 1/2"	1 1/2"

* Roadway Expansion Guard shall be fabricated for values of "R" given for 50° F.

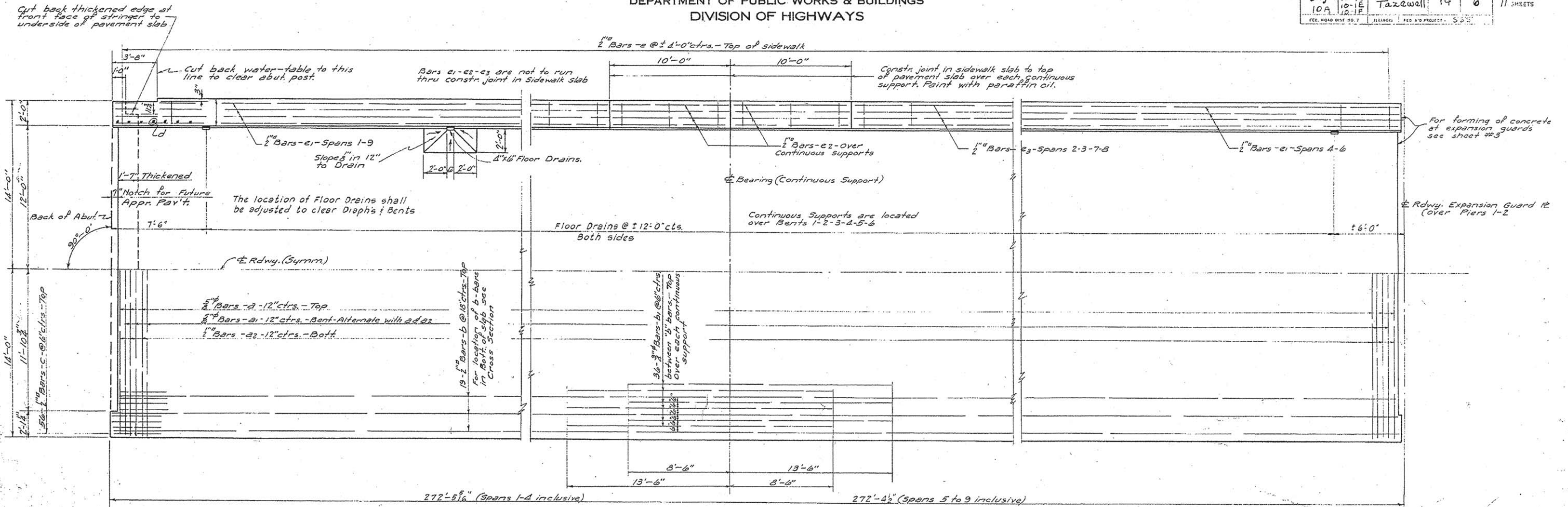
COMPUTED	R.E. Brown	EXAMINED	1-30-1940
CHECKED	E. M. Hagan	DESIGNED	H. F. Burch
DRAWN	R.E.B. Johnson	PASSED	H. F. Burch
CHECKED	CHW	ENGINEER OF DESIGN	
SPECIAL	ASSEMBLED	APPROVED	
CHECKED		CHIEF HIGHWAY ENGINEER	

Contract 89634
Sheet 97

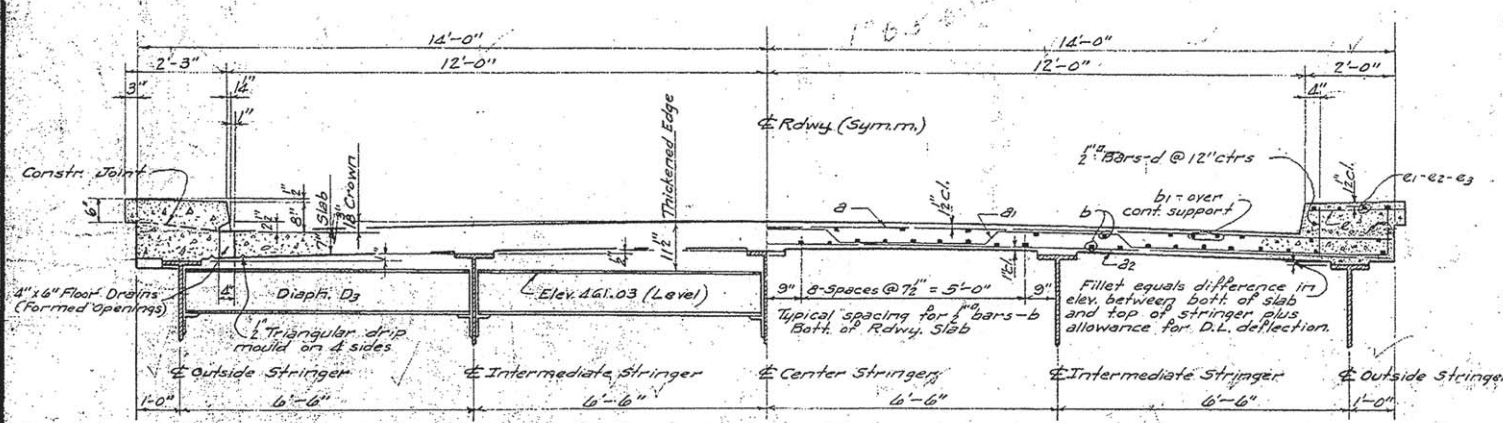
F.A.S. PROJECT 555-C
S.A. RTE. 10A SEC. 10-1B-1E
TAZEWELL COUNTY
STA. 154+50

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

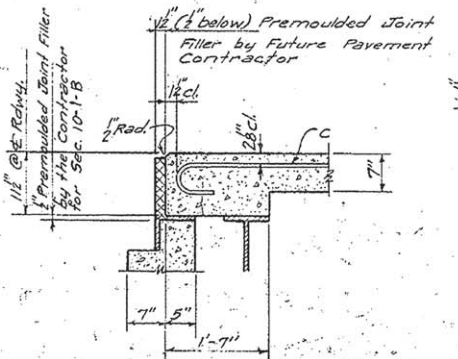
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
5A	Tazewell	14	6	11 SHEETS



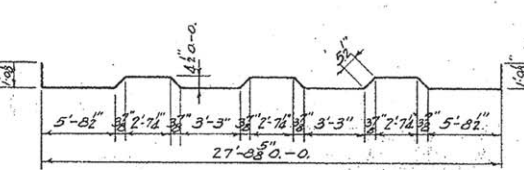
CONCRETE FLOOR PLAN



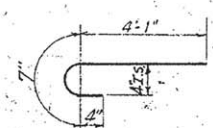
CROSS SECTION



CROSS SECTION THRU THICKENED EDGE OVER ABUTMENT



21-BAR



C-BAR

SUPERSTRUCTURE BILL OF MATERIAL SPANS 1 to 4 & 6 to 9 INCL.

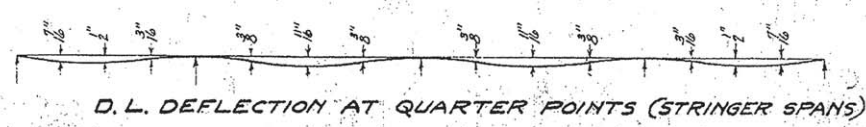
Bar	No.	Size	Length
B	544	5/8"	27'-9"
B1	542	5/8"	30'-6"
B2	544	5/8"	27'-9"
b	1140	1/2"	28'-6"
b1	216	3/4"	22'-0"
C	112	1/2"	5'-0"
d	1088	1/2"	1'-0"
c	308	1/2"	2'-0"
e1	64	1/2"	27'-0"
e2	96	1/2"	9'-9"
e3	64	1/2"	28'-3"

Class "X" Concrete Cu.Yds. 4000
Reinforcement Bars Lbs. 86,300
Structural Steel Lbs. 499,000

* The item Structural Steel includes Est. weight of 15,230 lbs. of bearing pl., lead pl., rollers, and anchor bolts; and Est. weight of 4880 lbs. of all Expansion Guards.

CONCRETE SLAB FOR SPANS 1 to 4 & 6 to 9 INCL.
F.A.S. PROJECT 555-C
S.A. RT. 10A - SEC. 10-1 B-1E-1F
TAZEWELL COUNTY
STATION 154+50

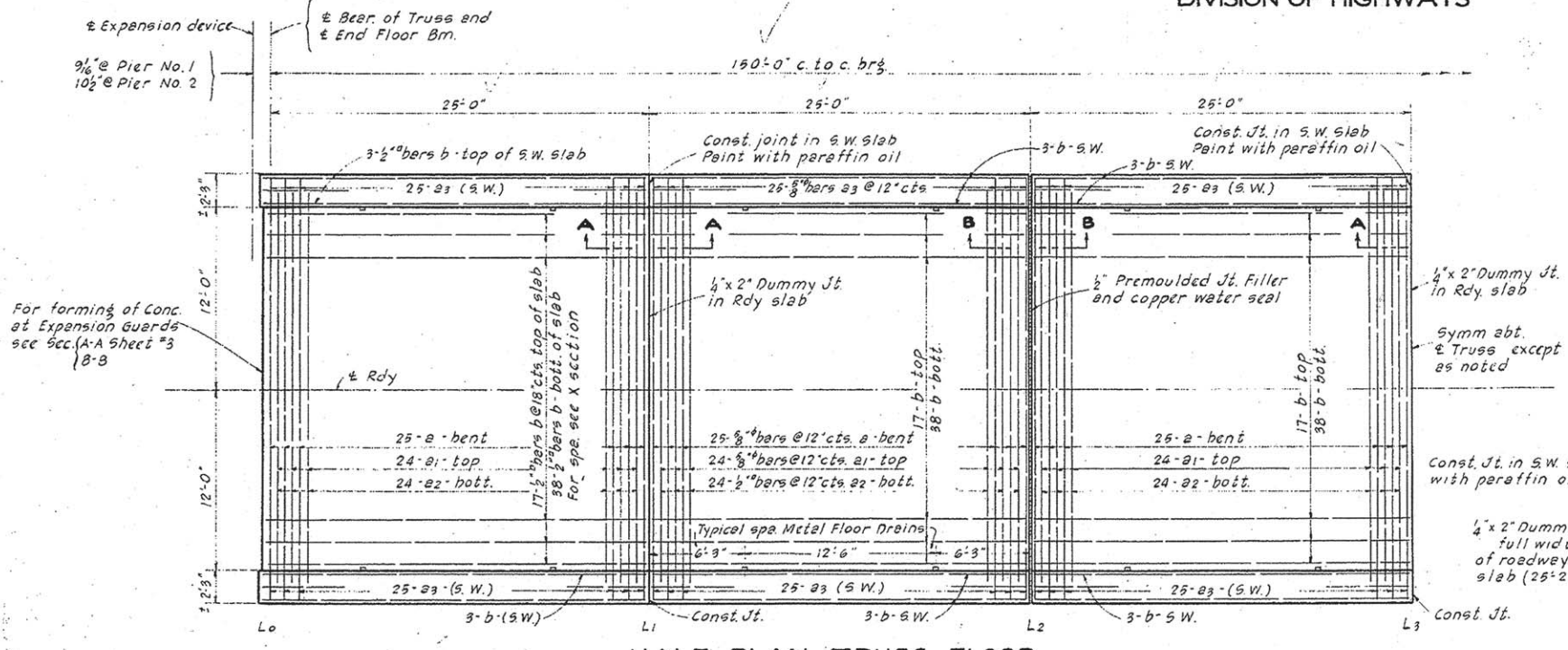
COMPUTED	R.E. Bross	EXAMINED	1-30-40
CHECKED	C. M. Hoppen	PASSED	
DRAWN	R.E.B. L.B. Diver	APPROVED	
CHECKED	cmh		
SPECIAL ASSEMBLED			
CHECKED			



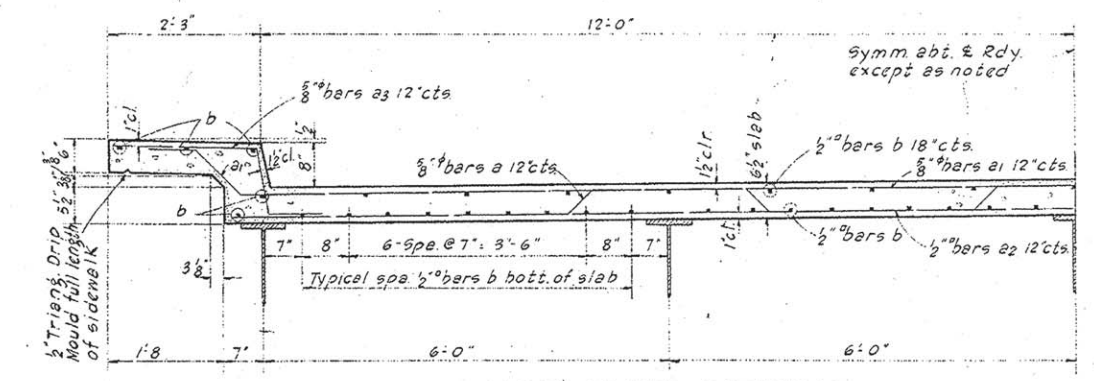
Contract 89634
Sheet 98

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

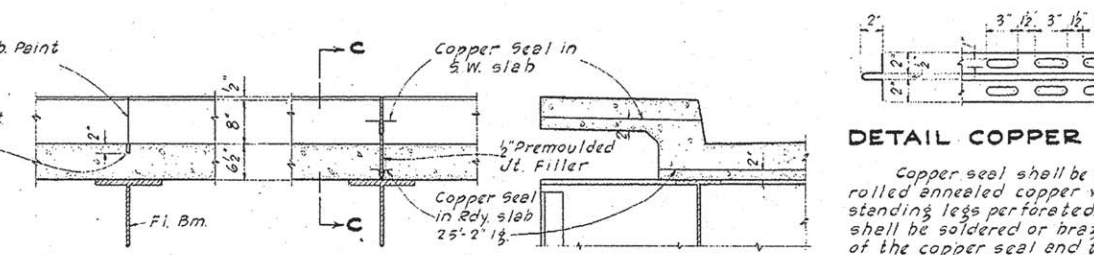
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
10A	10-B	Tazewell	14	7
ILLINOIS - FED. AID PROJECT			SSS	11 SHEETS



HALF PLAN TRUSS FLOOR

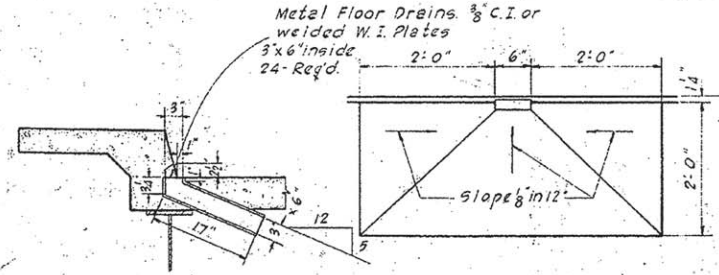


HALF CROSS SECTION

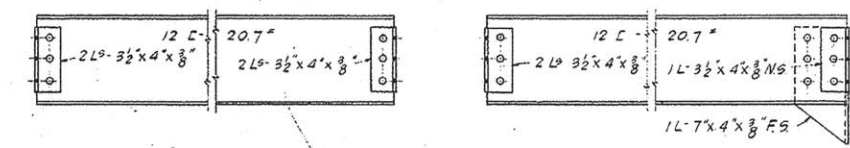


DETAIL COPPER SEAL

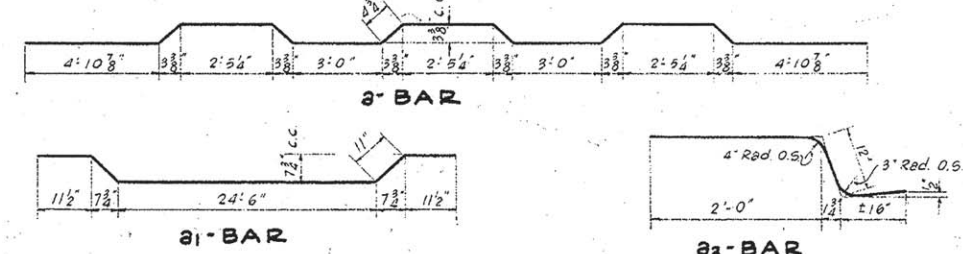
Copper seal shall be 16oz cold rolled annealed copper with outstanding legs perforated. Splices shall be soldered or brazed. Cost of the copper seal and the pre-moulded joint filler shall be included in the contract unit price for Class X Concrete



FLOOR DRAIN DETAILS



TRUSS DIAPH. DETAILS



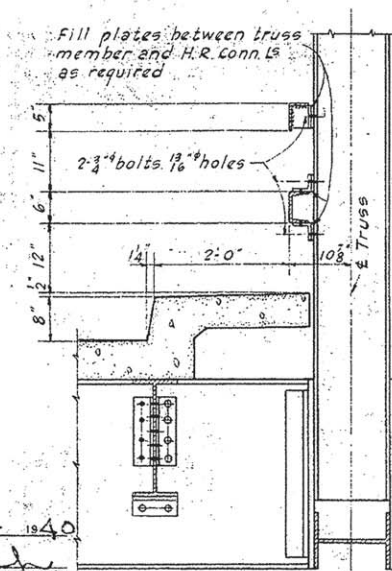
BILL OF MATERIAL FOR TRUSS SPAN

BAR	NO	SIZE	LENGTH
a	150	3/8"	25'-6"
b1	144	3/8"	28'-3"
b2	144	3/8"	24'-9"
b3	300	3/8"	4'-3"
b	366	1/2"	24'-9"

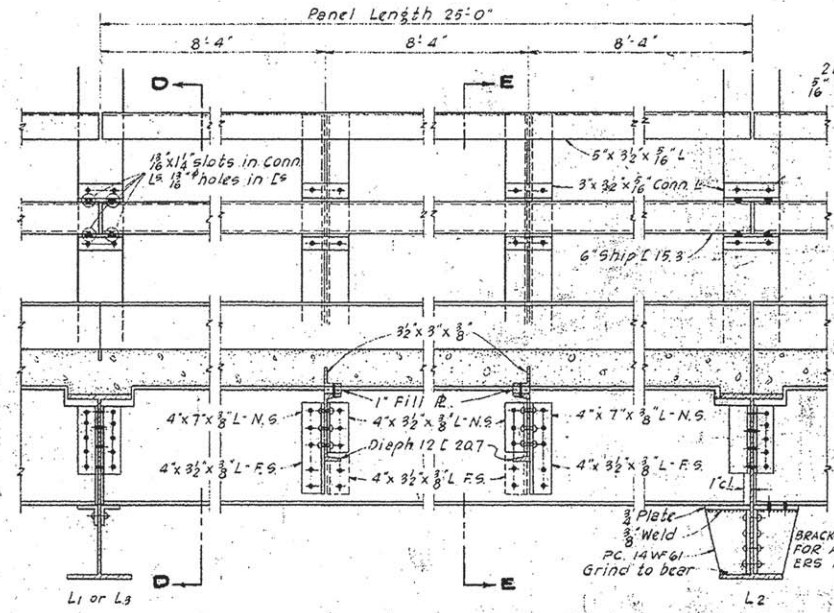
Class X Concrete Cu. Yds 91.7
Reinforcement Bars Lbs 20,290
* Structural Steel Lbs 210,240
Floor Drains Each 24

* Includes weight of all truss bearing details - 3130 Lbs

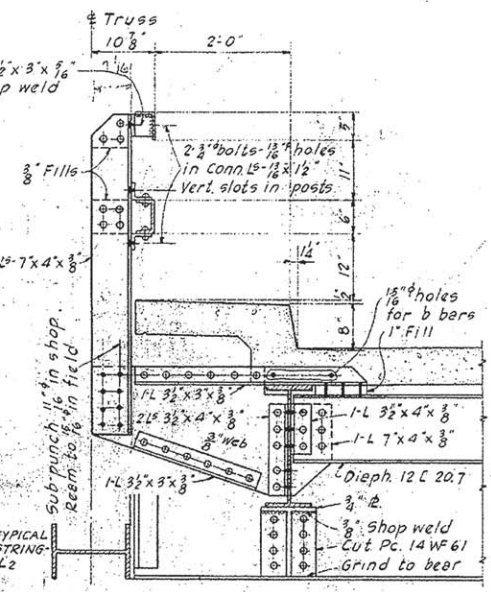
Contract 89634
Sheet 99



SECTION DD



HANDRAIL DETAILS



SECTION EE

STANDARD	COMPUTED	EXAMINED
CHECKED	J.A. Franke	1-30-1940
DRAWN	J.P.	H.F. Suresh
CHECKED	J.P.	APPROVED
SPECIAL	ASSEMBLED	CHIEF HIGHWAY ENGINEER
CHECKED		

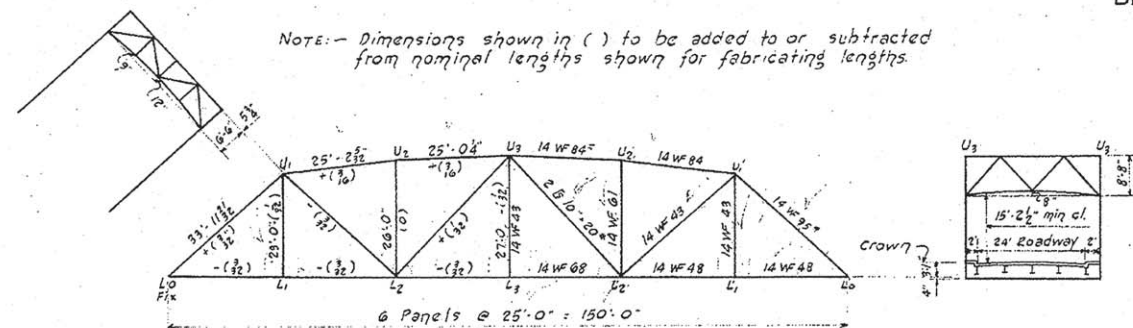
TRUSS FLOOR HANDRAIL
F.A.S. PROJ. 555-C
S.A. RT. 10-A SEC. 10-B-1E-1F
TAZEWELL COUNTY
STA. 154+50

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SECTION	NO.	TOTAL SHEETS	SHEET NO.
5-D	10-18	14	8
10-D	10-1F		

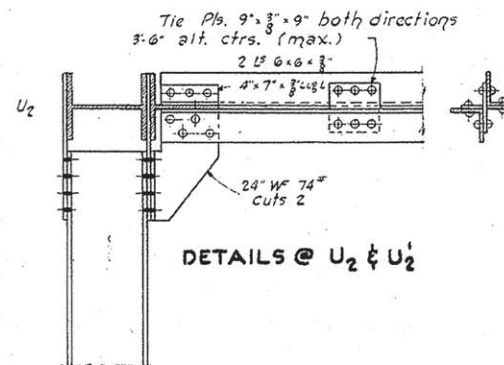
11 SHEETS

NOTE: - Dimensions shown in () to be added to or subtracted from nominal lengths shown for fabricating lengths.

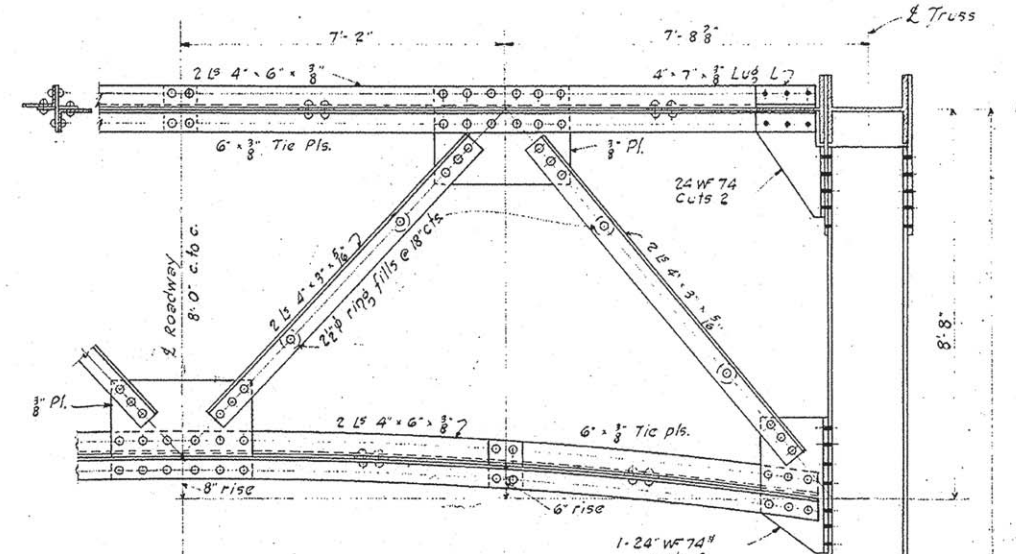


HALF BOTTOM PLAN

HALF TOP PLAN



DETAILS @ U₂ & U₁



SWAY BRACING @ U₃ ONLY

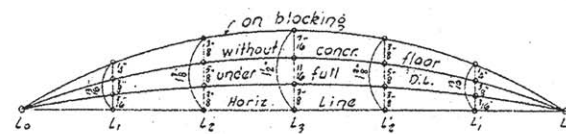
MEMBER	STRESSES - KIPS				SECTION	AREA	UNIT STRESS	
	D	L	I	T			KIPS/IN ²	% USED
L ₀ U ₁	184.5	74.0	195.5	272.0	14 WF 95	110	27.90	12.0
U ₁ U ₂	193.5	69.1	12.6	375.2	14 WF 84	100	24.71	12.5
U ₂ U ₃	192.5	68.7	12.5	273.7	14 WF 84	100	24.71	12.5
L ₀ L ₁	135.8	48.5	8.8	193.1	14 WF 48	-	14.11	17.9
L ₁ L ₂	208.2	74.5	12.6	296.3	14 WF 68	-	20.00	17.9
U ₁ L ₂	76.8	39.0	8.1	123.8	14 WF 43	-	12.65	13.7
L ₂ U ₂	23.8	-27.7	+5.2	-5.8	28 10" x 20"	120	11.72	7.0
U ₁ L ₁	44.0	31.3	8.9	84.2	14 WF 43	-	12.65	8.0
U ₂ L ₂	8.0				14 WF 61	127	17.94	11.0
U ₃ L ₃	44.0	31.3	8.9	84.2	14 WF 43	-	12.65	8.0

* Includes stress due to wt. of members
Moment in L₀ U₁ @ knee = 59.0 k' @ L₀ = 68.5 k'
End reaction (gross) = 221 k'
D.L. end reaction (gross) = 150 k'
Overload of 100% does not increase unit stresses in truss members more than 50%.

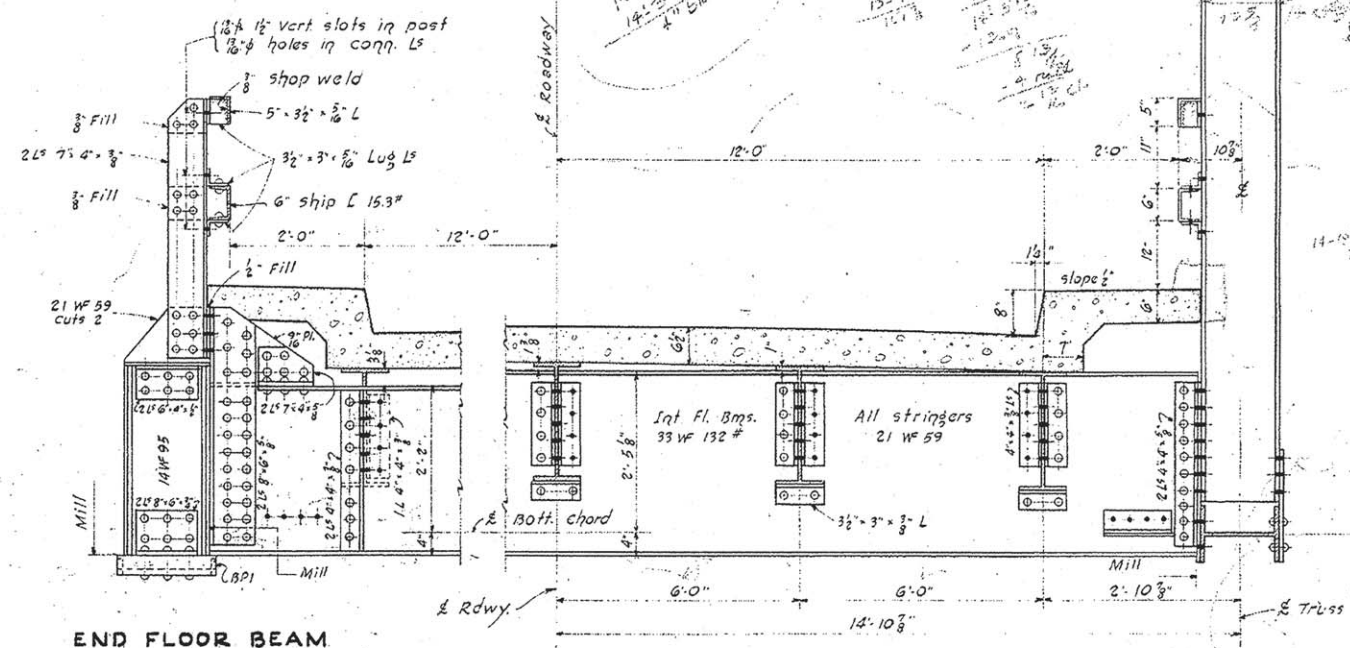
NOTES:
Rivets 3/4" except 3/8" in flgs. of 10" D. open holes 1/2" except 1/4" for 3/8" rivets, or as noted.
All fills shall be shop welded to truss members with fillet welds.
All main truss and floor beam connections shall be reamed in accordance with Art. 51.6 of the standard specifications.
Those portions of latticed members not readily accessible for painting with a brush may be painted with a gun.

MEMBER	SECTION	MOMENTS IN KIP FEET					SEC. MOD. USED	UNIT STRESS IN KIPS
		D	L	I	T	WALL		
Int. Floor Beam	33 WF 132	270.0	251.5	71.5	10.8	604.4	413.7	17550
End Floor Beam	30 WF 116	157.9	231.7	83.7	5.4	498.7	327.9	18240
I.S. stringers	21 WF 59	44.0	90.0	30.0	-	164.0	119.3	16500
O.S. stringers	21 WF 59	44.0	56.2	18.7	14.2	135.3	119.3	13600

© Bridge supported on jacks.



CAMBER DIAGRAM



END FLOOR BEAM

HALF CROSS SECTION @ L₃

STANDARD	COMPUTED	EXAMINED
	CHECKED	
	DRAWN	PASSED
	CHECKED	
SPECIAL	ASSEMBLED	APPROVED
	CHECKED	

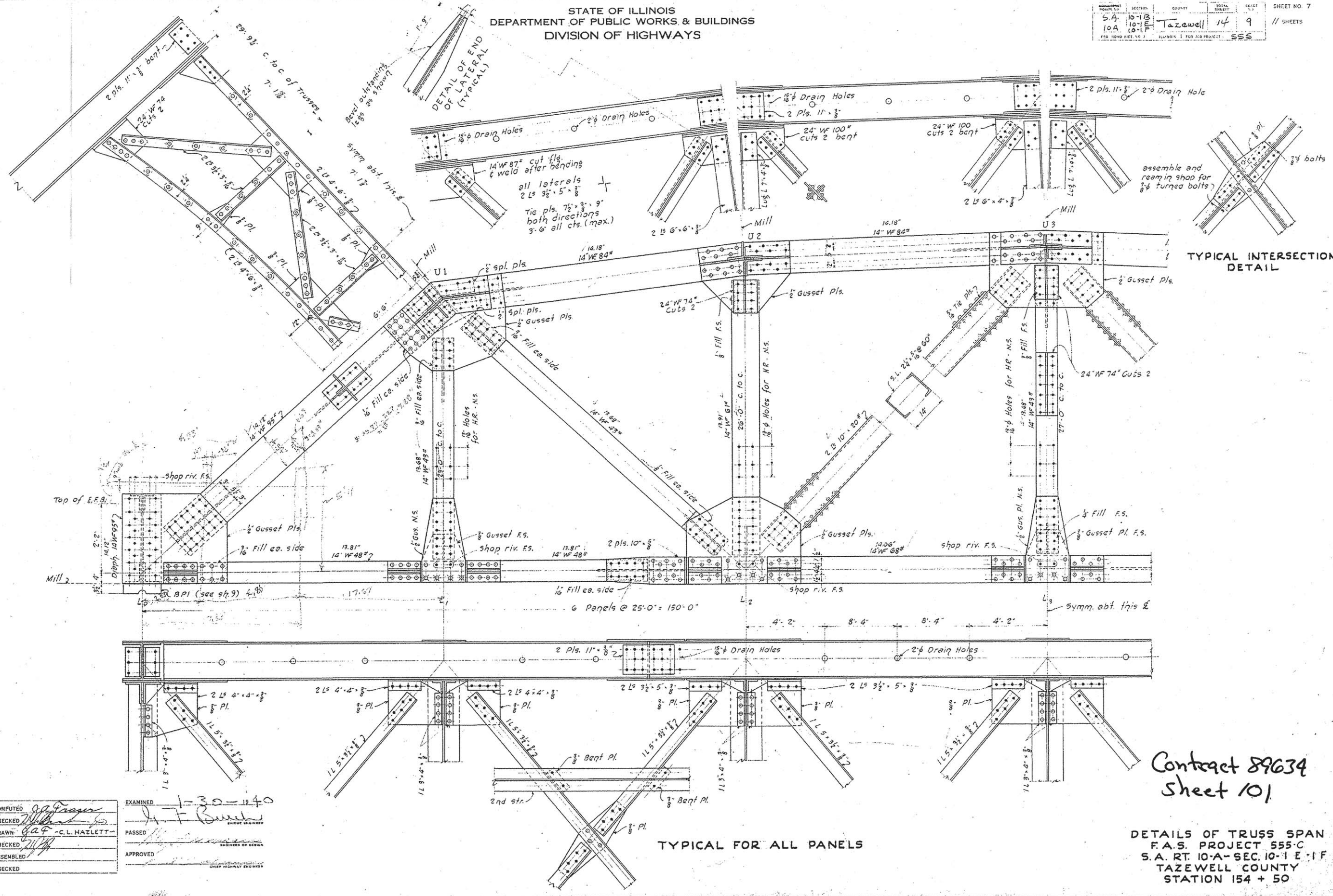
1-30-1940
G.A. Frazer
C.L. Hazlett
H.F. Bunch
S. J. ...

Contact 89634
Sheet 100

STRESS SHEET
F.A.S. PROJECT 555-C
S. A. RT. 10-A - SEC. 10-1B-1E-1F
TAZEWELL COUNTY
STA. 154 + 50

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SHEET NO. 7
S.A. 10-1-B
10A 10-1-E
Tazewell 14 9
FED. ROAD DIST. NO. 7 ILLINOIS I. FED. AID PROJECT - 555



STANDARD	COMPUTED	<i>J.F. Fraser</i>
	CHECKED	<i>J.F. Fraser</i>
	DRAWN	<i>J.F. Fraser</i>
	CHECKED	<i>J.F. Fraser</i>
SPECIAL	ASSEMBLED	<i>J.F. Fraser</i>
	CHECKED	<i>J.F. Fraser</i>

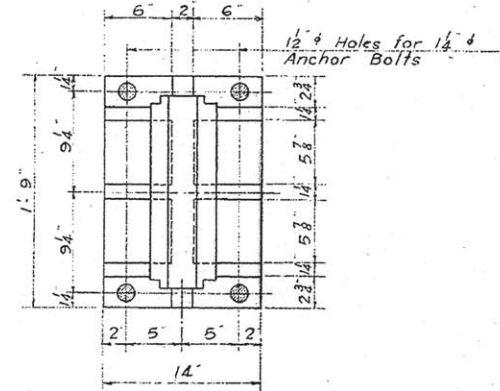
EXAMINED *J.F. Fraser*
1-30-40
PASSED
APPROVED
CHIEF HIGHWAY ENGINEER

Contract 89634
Sheet 101

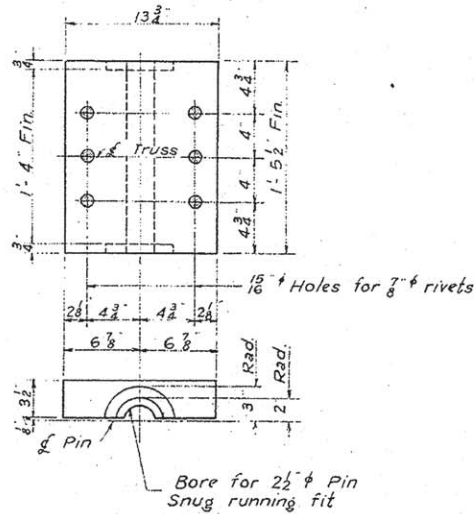
DETAILS OF TRUSS SPAN
F.A.S. PROJECT 555-C
S.A. RT. 10-A-SEC. 10-1 E-1 F
TAZEWELL COUNTY
STATION 154 + 50

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

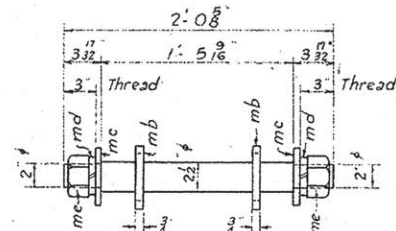
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
5-5	10-1	Tazewell	14	10	10
10-A	10-1-E				
FED. ROAD DIST. NO. 7	ILLINOIS	SEC. AID PROJECT	555		



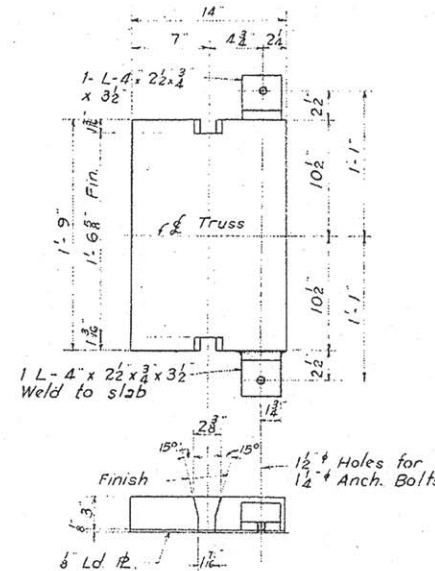
FIXED SHOE - CBI
CAST STEEL ANNEALED
2 REQUIRED - WT. = 394[#] EACH



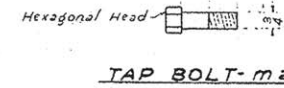
SLAB - BP1
13 3/4" X 3 1/2" X 1 1/2"
STRUCTURAL STEEL - STRAIGHTEN AND RIVET TO TRUSS IN SHOP
4 REQUIRED
WEIGHT = 207 LBS. EACH



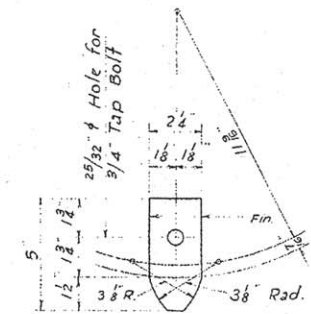
PIN - P1
4 REQUIRED:
1 PIN - 2 1/2" X 2' 0 3/8"
2 KEEPER RINGS 5 1/2" X 3/4" WITH 4 1/32" DRILLED HOLE - mb
2 WASHERS 5" X 1/2" WITH 2 1/8" HOLE - mc
2 LOCK WASHERS - 1/2" THICK WITH 2 1/8" HOLE - md
2 STANDARD HEXAGONAL NUTS - 2" TAP - me
WEIGHT COMPLETE = 47 LBS.



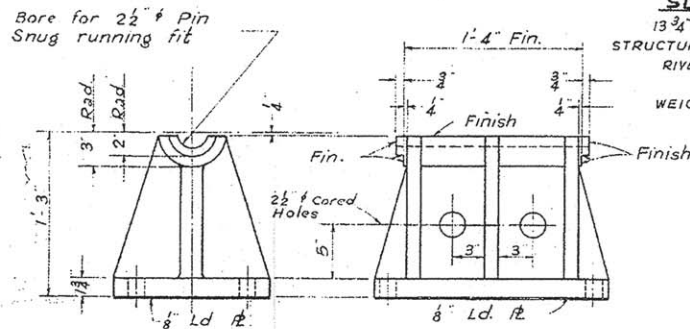
SLAB MP1
14" X 3" X 1 1/2"
STRUCTURAL STEEL - STRAIGHTEN
2 REQUIRED
WEIGHT = 250[#] EACH



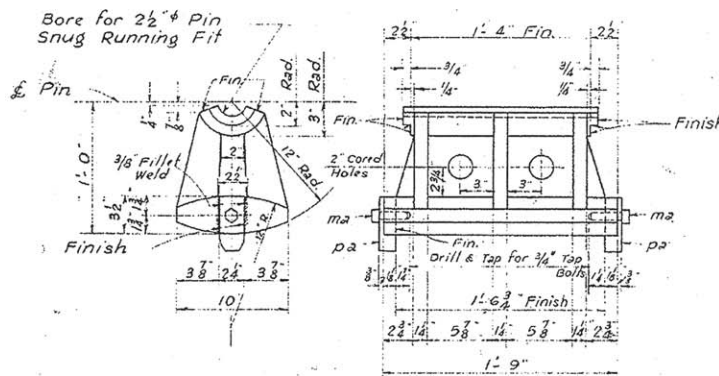
TAP BOLT - ma



TOOTH BAR - pa
2 1/2" X 1 1/2" X 5"
FINISH EDGES
WEIGHT = 5 LBS. EACH

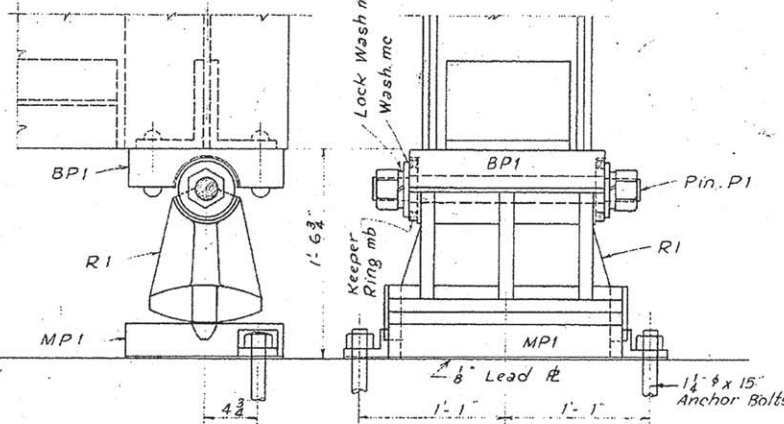
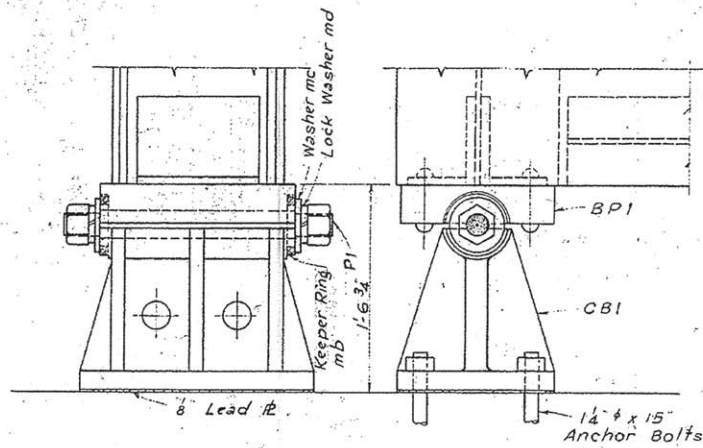


FIXED BEARINGS AT PIER No. 1
WEIGHT COMPLETE = 691[#]



ROCKER - R1
CAST STEEL ANNEALED - CLASS B HARD
2 REQUIRED
WT. = 331[#] EACH

Steel castings (Estimated Weight = 1450[#]) shall be included for payment as Structural Steel. Weight of all other parts of Bearing Details including lead plates and anchor bolts = 1680[#] and are included for payment as Structural Steel.



EXPANSION BEARING AT PIER No. 2
WEIGHT COMPLETE = 874[#]

STANDARD	COMPUTED	EXAMINED
	CHECKED	
	DRAWN	
	CHECKED	
SPECIAL	ASSEMBLED	APPROVED
	CHECKED	

Contract 89634
Sheet 102

BEARINGS FOR TRUSS SPAN
F. A. S. PROJECT 555-C
S. A. RTE. 10-A - SEC. 10-1-E-1 F
TAZEWELL COUNTY
STA. 154 + 50

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SA 10A	10-1-B	Tazewell	14	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	555	11 SHEETS

BILL OF MATERIAL FOR E. & W. ABUTS.

BAR	No.	SIZE	LENGTH
h	8	2" ø	16'-0"
h1	48	-	6'-0"
h2	8	-	5'-6"
h3	40	-	3'-0"
v	56	1/2" ø	4'-0"
v1	16	-	5'-6"
v2	24	-	6'-9"
v3	32	-	9'-9"
s	44	1/2" ø	12'-0"
s1	20	2" ø	9'-3"
p	16	3/8" ø	17'-6"

ADDITIONAL BARS IN ALT. 'B' & 'C' ONLY			
v7	80	3/8" ø	10'-0"
s3	90	3/8" ø	6'-0"

BILL OF MATERIAL FOR ALT. 'A'

Class X Concrete (Cap) Cu. Yds.	35.3
Reinforcement Bars (Cap) Lbs.	2240
Precast Conc. Piles (45'-0" lg) Lin. Ft.	450
Precast Conc. Test Piles	Each 2

BILL OF MATERIAL FOR ALT. 'B'

Class X Conc. (Caps & Cols) Cu. Yds.	43.1
Reinforcement Bars (Caps & Columns) Lbs.	3,650
Furn. Metal Pile Shells (35'-0" lg) Lin. Ft.	350
Driving & Filling Shells (35'-0" lg) Lin. Ft.	350
Metal Shell Test Piles	Each 2

BILL OF MATERIAL FOR ALT. 'C'

Class X Concrete (Caps & Columns) Cu. Yds.	43.1
Reinforcement Bars (Caps and Columns) Lbs.	3,650
Furnishing, Driving, & Filling Metal Pile Shells (35'-0" lg) Lin. Ft.	350
Metal Shell Test Piles	Each 2

BILL OF MATERIAL FOR BENTS 1-6 INCL.

ALTERNATE 'A'			
BAR	No.	SIZE	LENGTH
P1	48	1" ø	17'-6"
S2	156	1/2" ø	10'-3"

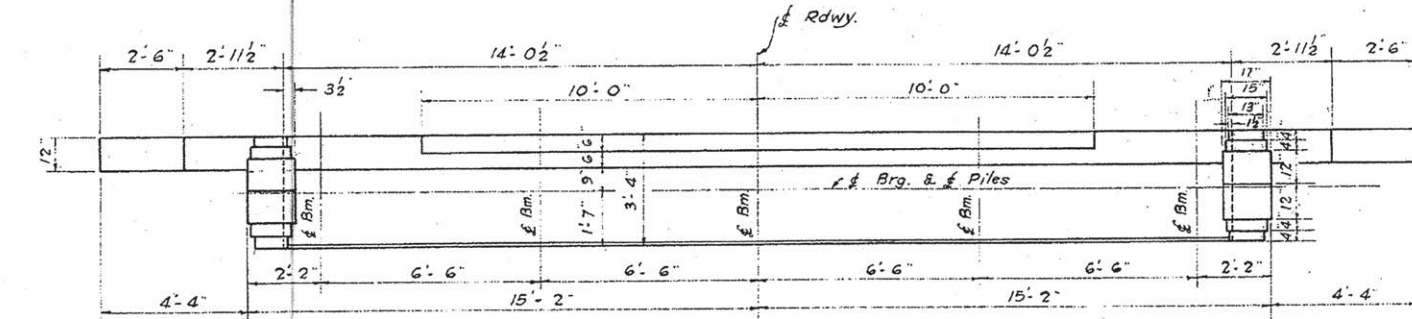
Class X Concrete (Caps) Cu. Yds. 44.3
Reinforcement Bars (Caps) Lbs. 3930
Precast Concrete Piles (45'-0" lg) Lin. Ft. 1620
Precast Concrete Test Piles Each 2

ALTERNATE 'B'			
BAR	No.	SIZE	LENGTH
p1	48	1" ø	17'-6"
v4	240	3/8" ø	14'-0"
v8	48	3/4" ø	17'-9"
s2	156	1/2" ø	10'-3"
s3	540	3/8" ø	6'-0"

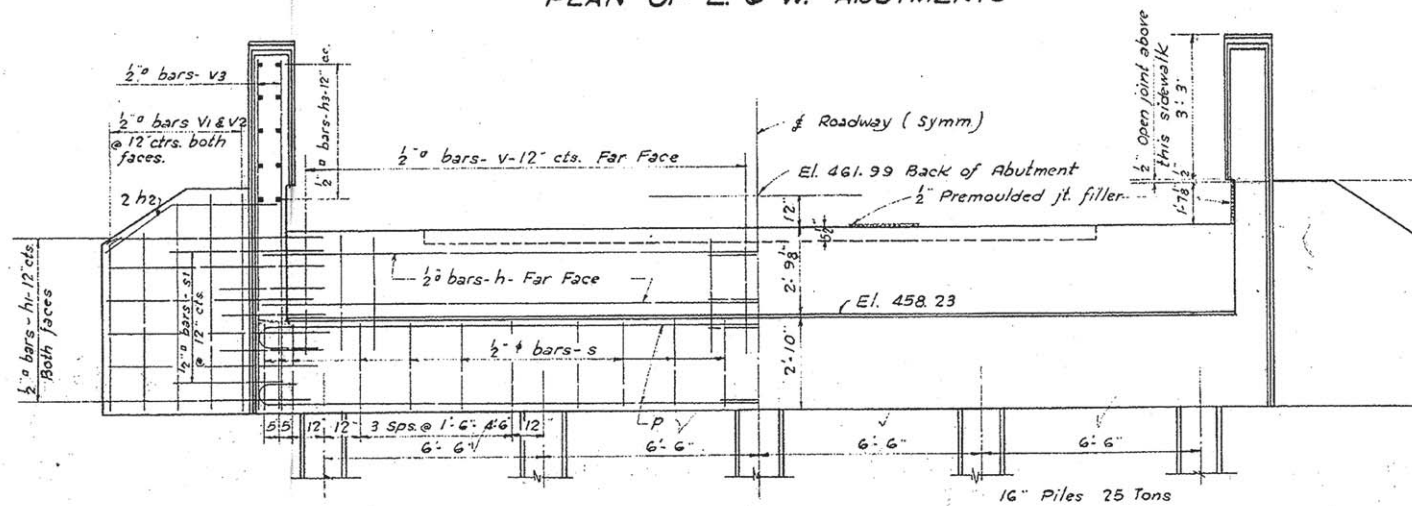
Class X Concrete (Caps & Cols) Cu. Yds. 88.4
Reinforcement Bars (Caps and Columns) Lbs. 11,470
Furn. Metal Pile Shells (35'-0" lg) Lin. Ft. 1260
Driving & Filling Shells (35'-0" lg) Lin. Ft. 1260
Metal Shell Test Piles Each 2

ALTERNATE 'C'			
BAR	No.	SIZE	LENGTH
v8	48	3/4" ø	17'-9"
p1	48	1" ø	17'-6"
v4	240	3/8" ø	14'-0"
s2	156	1/2" ø	10'-3"
s3	540	3/8" ø	6'-0"

Class X Concr. (Caps and Columns) Cu. Yds. 88.4
Reinforcement Bars (Caps & Cols) Lbs. 11,470
Furnishing, Driving and Filling Metal Pile Shells (35'-0" lg) Lin. Ft. 1260
Metal Shell Test Piles Each 2

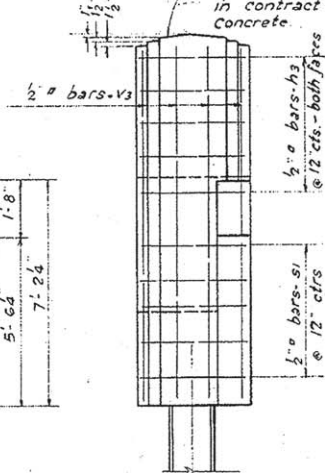


PLAN OF E. & W. ABUTMENTS

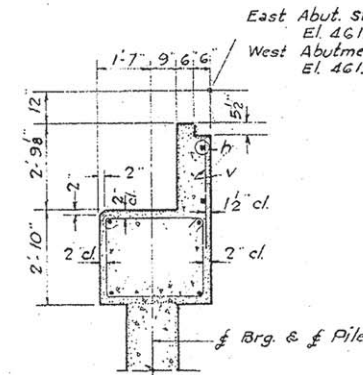


ELEVATION OF E. & W. ABUTMENTS

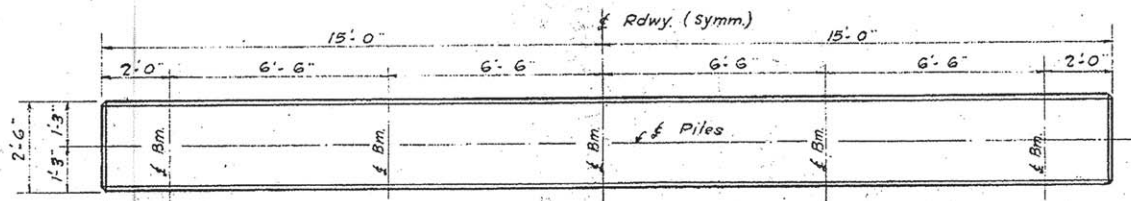
Note: The Contractor for Sec. 10-1-B shall box concrete rail posts to prevent injury during erection of structural steel. Cost to be included in contract unit price for Class X Concrete.



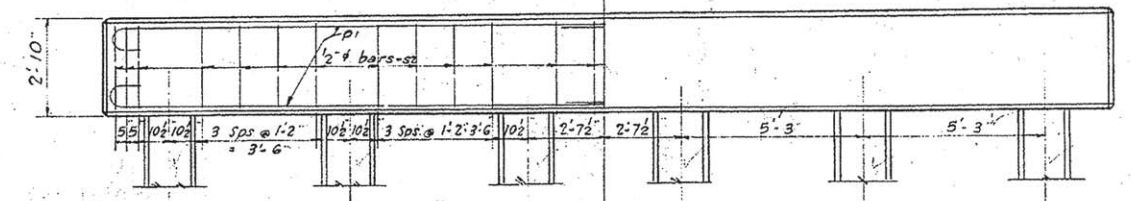
END ELEVATION



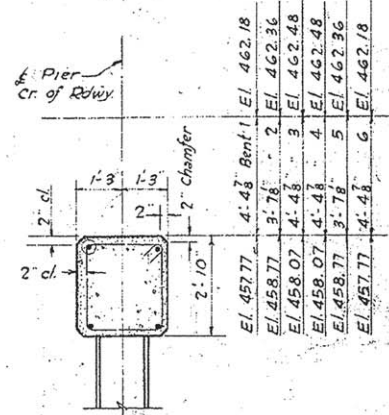
SECTION AT RDWY.



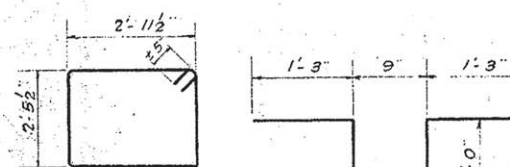
PLAN OF BENTS 1 TO 6 INCL.



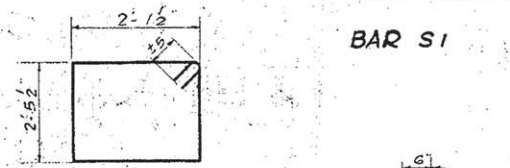
ELEVATION OF BENTS 1 TO 6 INCL.



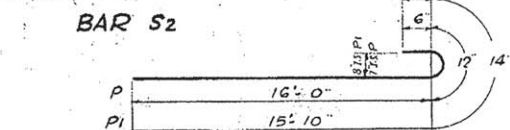
SECTION AT RDWY.



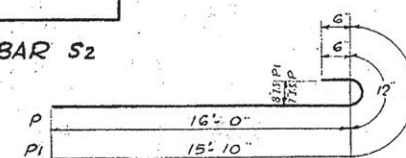
BAR S



BAR S1



BAR S2



BARS P-P1

Note: For Detail of Piles and Columns, see Sheet # 10 of 11.

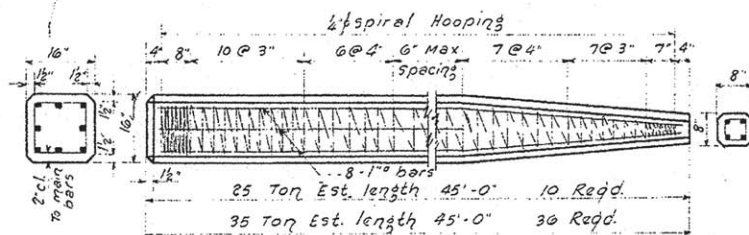
Contact 89634
Sheet 103

STANDARD	COMPUTED	C. M. Hopper	EXAMINED	5-15-1940
	CHECKED	R. G. Brown		
	DRAWN	W. H. Hertz	PASSED	
	CHECKED	R. G. B.	APPROVED	
SPECIAL	ASSEMBLED			
	CHECKED			

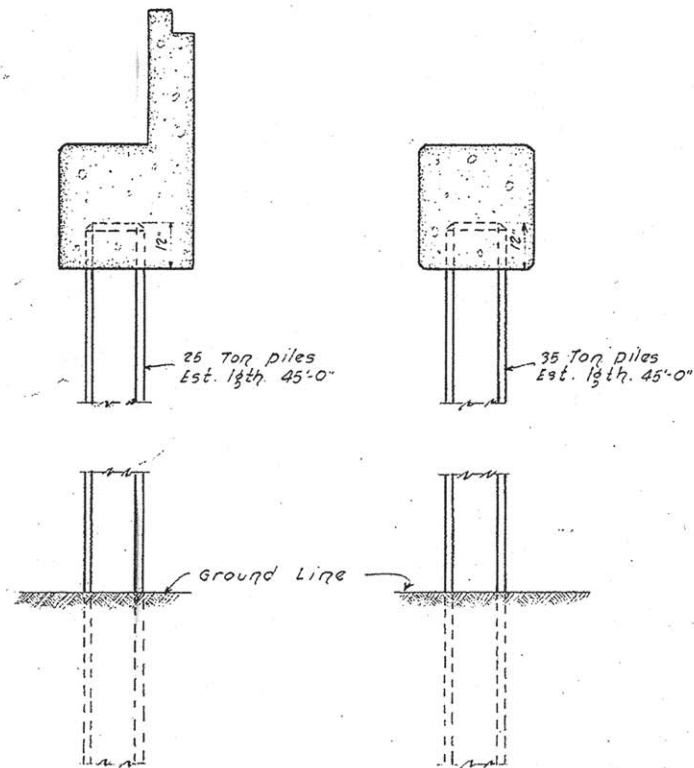
CHIEF ENGINEER	
BRIDGE ENGINEER	
INSPECTOR	
CHIEF HIGHWAY ENGINEER	

ALTERNATE A-B-C
F. A. S. PROJECT 555-C
S. A. RTE. 10-A-SEC. 10-1-B
TAZEWELL COUNTY
STA. 154 + 50

ALTERNATE "A"



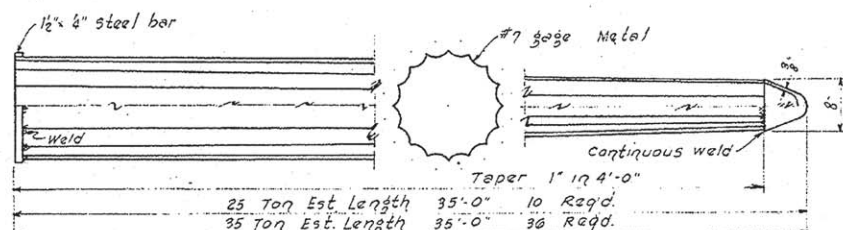
DETAIL OF PRECAST CONCRETE PILE



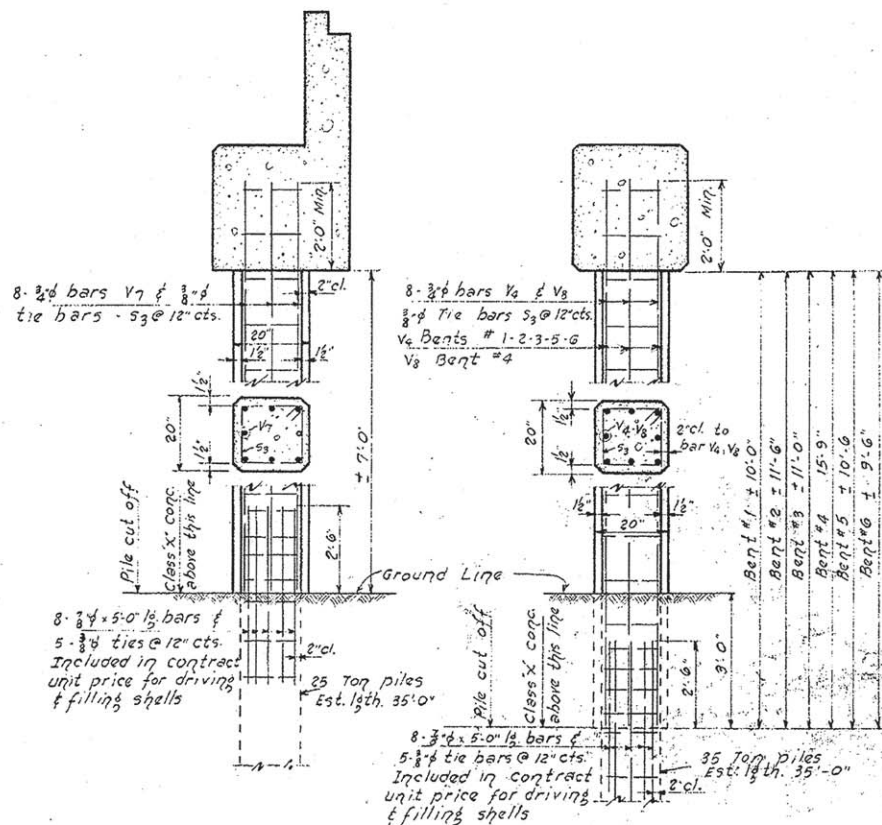
ELEV. AT ABUTMENTS

ELEV. AT BENTS

ALTERNATE "B"



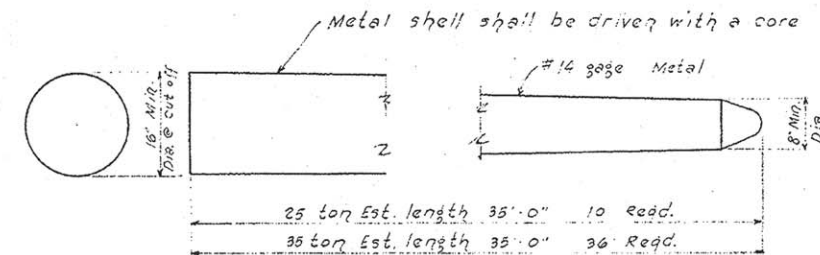
DETAIL OF METAL SHELL ALT. "B" FOR CAST IN PLACE CONC. PILE



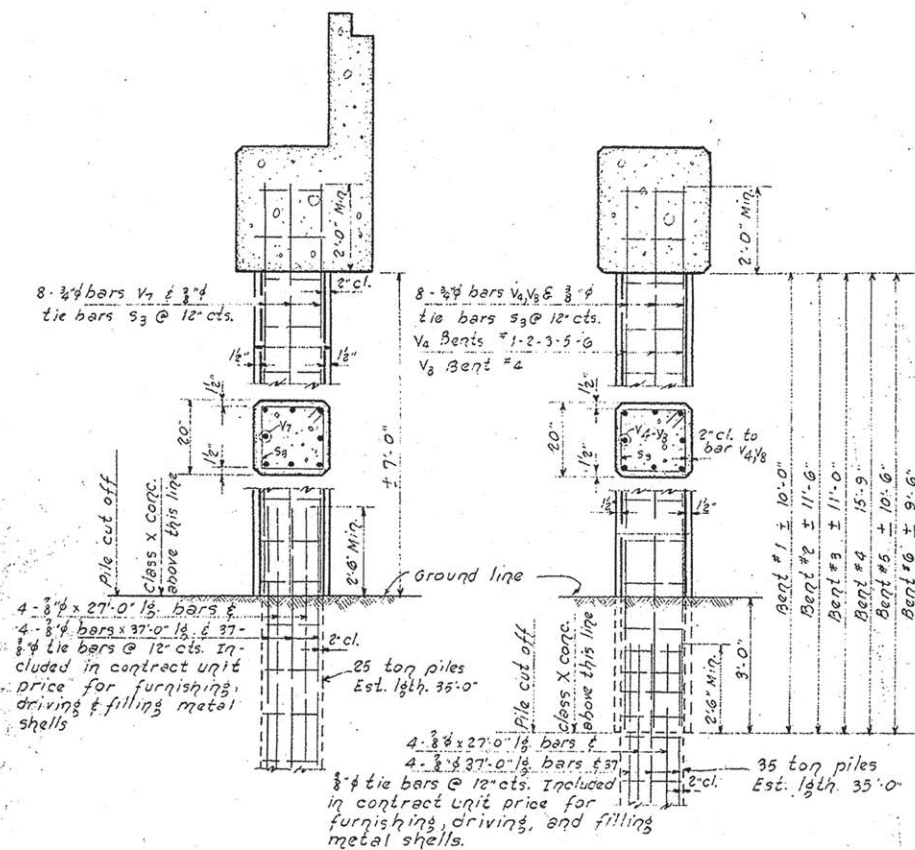
ELEV. AT ABUTMENTS

ELEV. AT BENTS

ALTERNATE "C"



DETAIL OF METAL SHELL ALT. "C" FOR CAST IN PLACE CONC. PILE



ELEV. AT ABUTMENTS

ELEV. AT BENTS

COMPUTED	E. M. Hopper
CHECKED	R. E. Brown
DRAWN	C. L. HAZLETT
CHECKED	R. E. B.
ASSEMBLED	
CHECKED	

EXAMINED	5-15-40
	H. F. Burch
PASSED	
APPROVED	

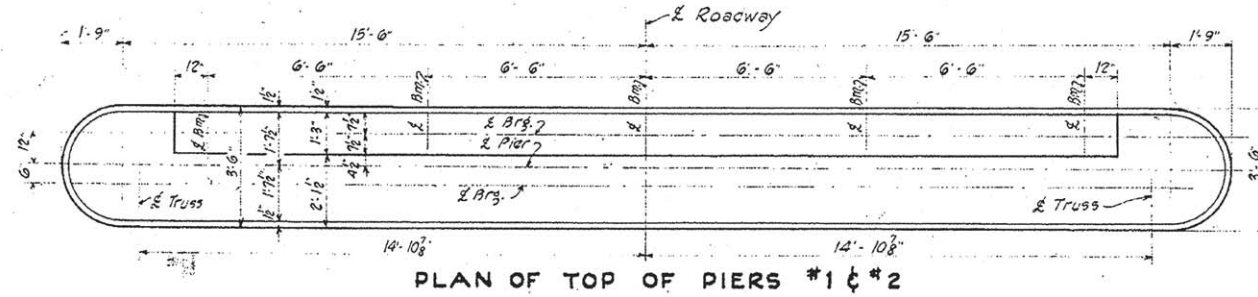
Contract 89634
Sheet 104

ALTERNATE A-B-C
F.A.S. PROJECT 555-C
S.A. RT. 10A - SEC. 10-1-B
TAEWELL COUNTY
STA. 154 + 50

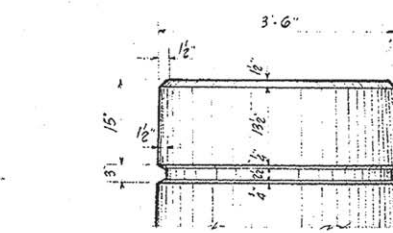
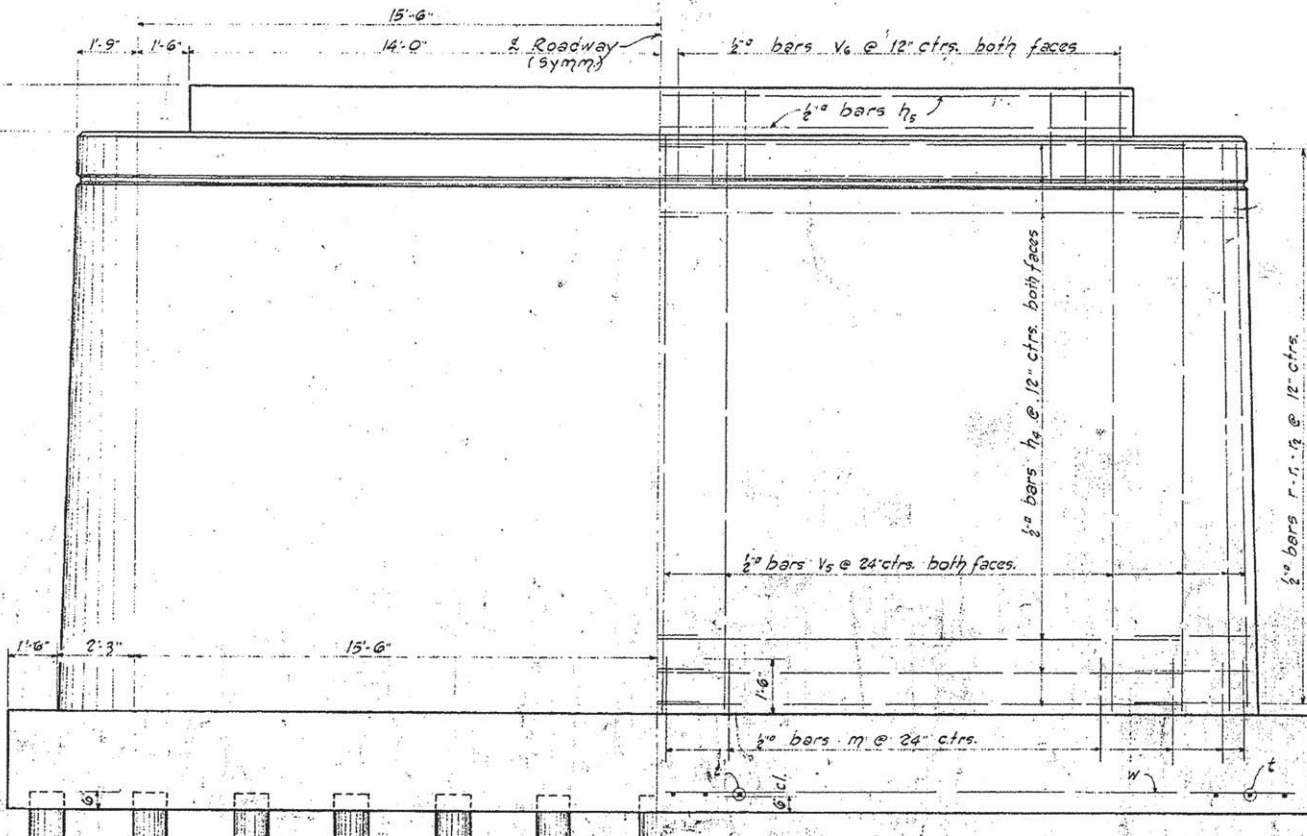
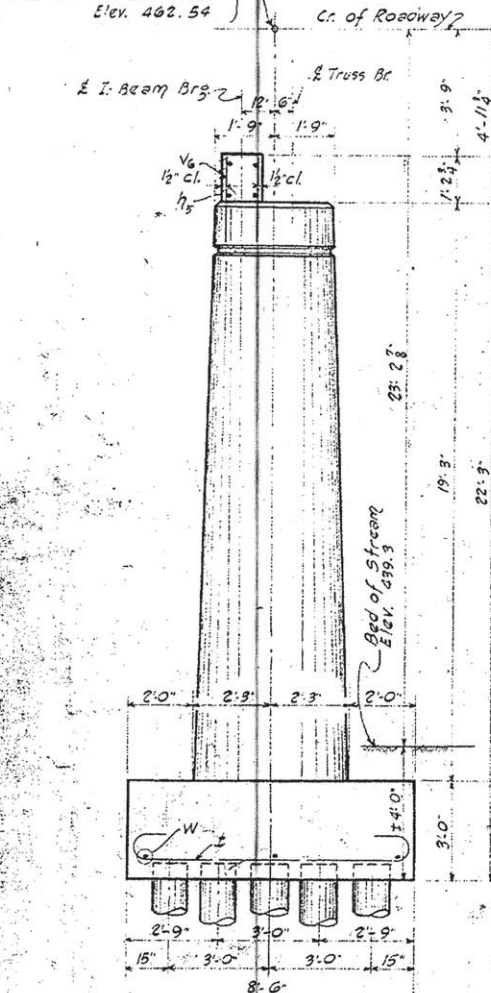
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10-B	Tazewell	14	13

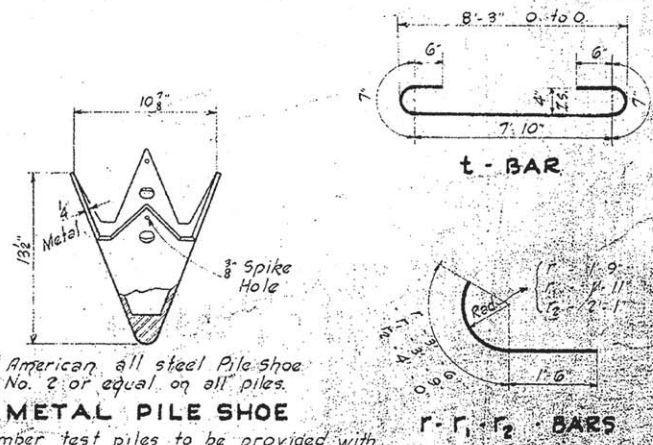
SHEET NO. 11
// SHEETS



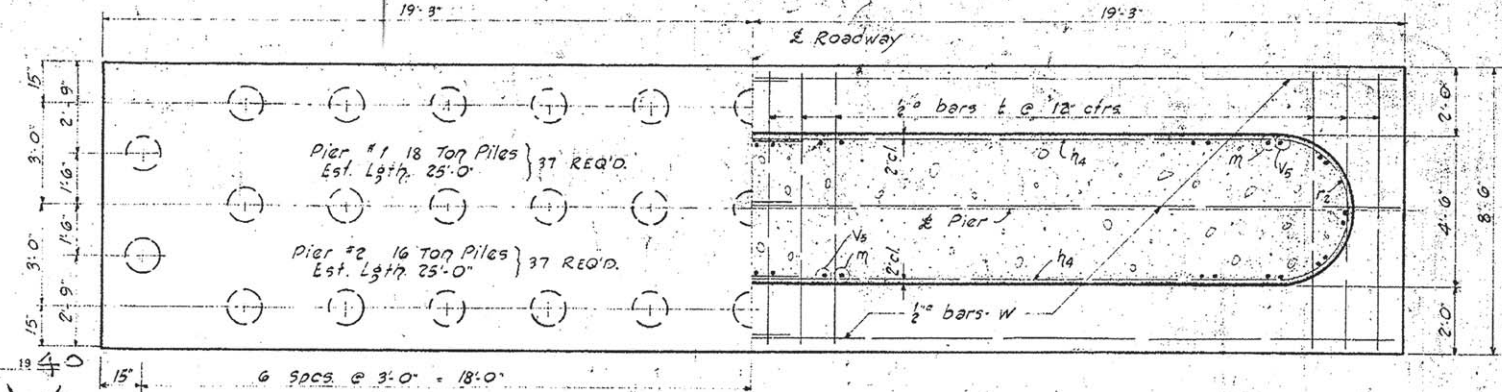
Pier #1 Sta. 153+74.5
Elev. 462.54
Pier #2 Sta. 155+25.5
Elev. 462.54



DETAIL OF BAND AROUND TOP OF PIER



BAR	NO.	SIZE	LENGTH
h ₂	160	1/2"	16'-3"
h ₃	16	1/2"	14'-9"
V ₅	80	1/2"	19'-0"
V ₆	112	1/2"	22'-6"
r	48	1/2"	5'-0"
r ₁	56	1/2"	5'-3"
r ₂	56	1/2"	5'-6"
m	80	1/2"	3'-0"
t	78	1/2"	10'-0"
w	12	1/2"	20'-0"
Class 'A' Concrete			cu. yds. 269.9
Reinforcement Bars			Lbs. 5730
Untreated Timber Piles (2 1/2") Dia. Ft. 1850			
Timber Test Pile			Each Two
Metal Pile shoes			Each 74



Class 'A' Concrete shall be used thru out Piers #1 & #2.

Contact 89634
Sheet 105

BRIDGE OVER MACKINAW RIVER
F.A.S. PROJECT 555-C
S.A. RT. 10-A SECTION 10-B
TAZEWELL COUNTY
STA. 154+50

COMPUTED	E. M. Hopper	EXAMINED	J. F. Brown
CHECKED	R. E. Brown	PASSED	
DRAWN	C. W. HAZLETT	APPROVED	
CHECKED	R. E. B.		
ASSEMBLED			
CHECKED			

1-30-18 40

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLANS FOR PROPOSED

HIGHWAY BRIDGE REPLACEMENT
AND REHABILITATION PROGRAM

F.A.S. ROUTE 461

SECTION 93-00010-11-BR

STRUCTURE # 090-3001

TAZEWELL COUNTY

PROJECT NO. BHS-461(114)

F.A.S. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
461	(*)	TAZEWELL	16	1

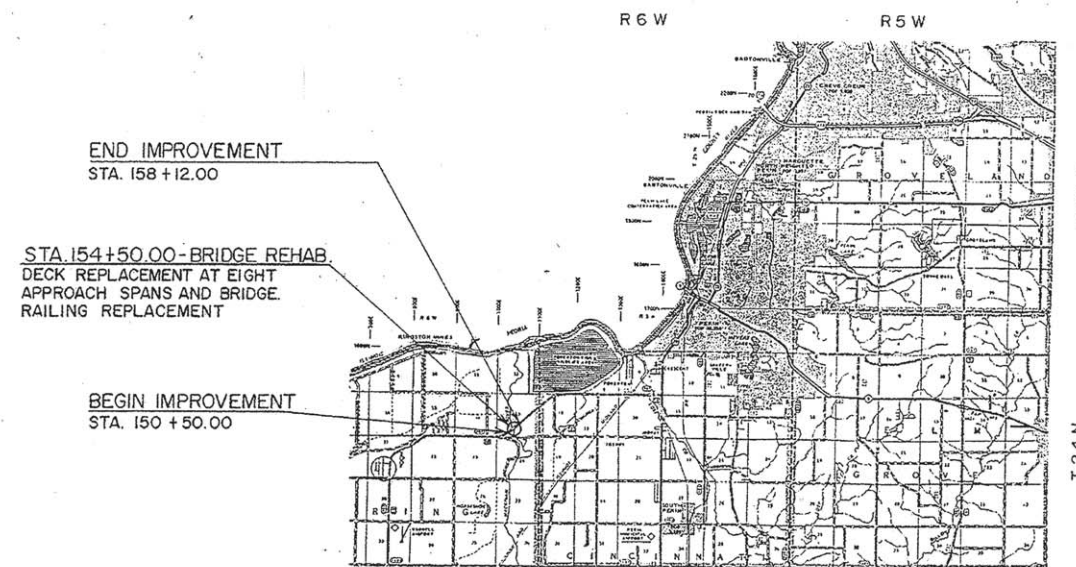
ILLINOIS PROJECT BHS-461(114)
(*93-00010-11-BR

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	SUMMARY OF QUANTITIES & GENERAL NOTES
3	PLAN AND PROFILE
4	GENERAL PLAN AND ELEVATION
5	ELEVATIONS - TOP OF DECK
6	EAST DECK SLAB
7	WEST DECK SLAB
8	SECTIONS THRU DECK
9	ABUTMENT DETAILS
10	STEEL BRIDGE RAIL & STRUCTURAL STEEL DETAILS
11	BRIDGE RAIL AND TRUSS CURB DETAILS
12	STEEL BRIDGE RAIL (TYPE 2399)
13	CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS
14	CONCRETE AND BEARING REPAIR DETAILS AND NOTES
15-16	DRAINAGE SCUPPER DETAILS

LIST OF STANDARDS

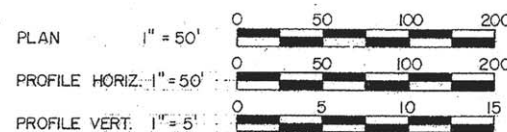
1686-5	SYMBOLS AND ABBREVIATIONS
2113-4	DETAIL OF NAME PLATE FOR BRIDGES
2230-1B	STEEL PLATE BEAM GUARDRAIL
2298-II	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2336-5	TRAFFIC BARRIER TERMINAL, TYPE I
2340-6	TRAFFIC BARRIER TERMINAL, TYPE 5 & 5A
2442-3	BRIDGE APPROACH PAVEMENT
BLR-21-3	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES



0 1 2 3 4 5 6 7 8 MI.

LAYOUT SCALE: 1 INCH = 2 MILES

NET LENGTH OF SECTION = 762.00 FT. = 0.144 MILES
3R DESIGN - MINIMUM GUIDELINES FOR STRUCTURES TO REMAIN IN PLACE WITH CURRENT ADT OVER 3000



ADT (1985) : 3900
FUNCTIONAL CLASSIFICATION : MAJOR COLLECTOR
DESIGN SPEED 55 MPH
JOB NO. C-94-225-94

CONTRACT NO. 89138

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS: PHONE 1-800-892-0123



Wayne Sidcumb
ILLINOIS PROFESSIONAL NO. 41475

APPROVED DEC 14 19 94

Norman H. Johnson
TAZEWELL COUNTY ENGINEER

PASSED Jan 4 19 95

James A. Lewis
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED Jan 4 19 95

Devinson
DISTRICT ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

(Printed by Authority of the State of Illinois)

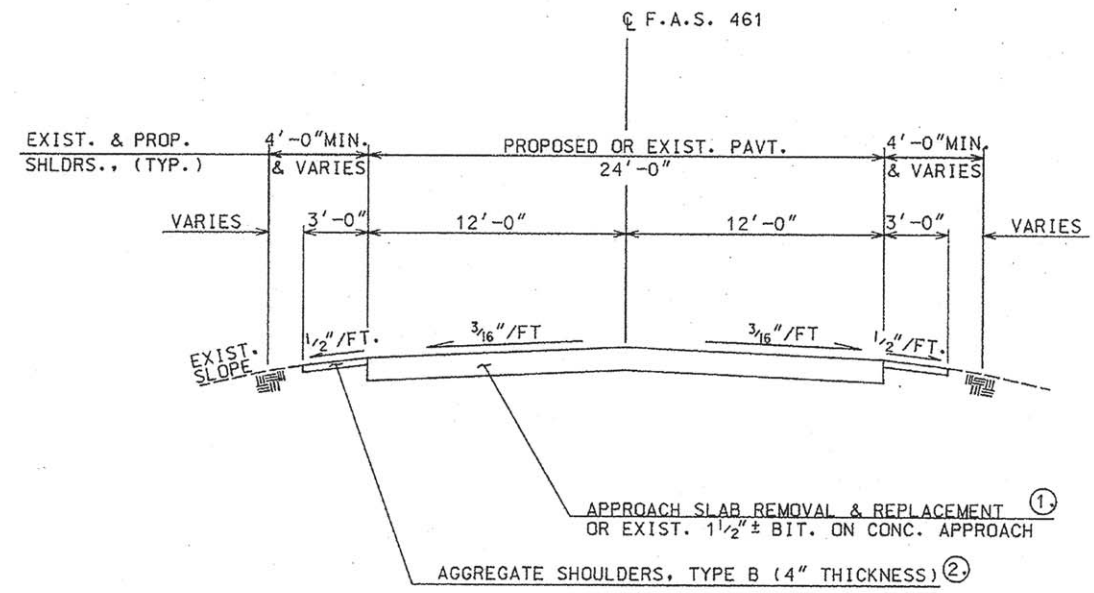
Contact 89634
sheet 106

12-5-94 11-30-95
DATE LICENSE EXPIRATION DATE

SUMMARY OF QUANTITIES

CONST. TYPE CODE X032-2A

CODE NO.	ITEM	UNIT	QUANTITY
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1
25100115	MULCH, METHOD 2	ACRE	0.1
48101200	AGGREGATE SHOULDERS, TYPE B	TON	28
50102400	CONCRETE REMOVAL	CU.YD.	9.8
50104720	REMOVAL OF EXSTING CONCRETE DECK	EACH	1
50200100	STRUCTURE EXCAVATION	CU.YD.	6
50300100	FLOOR DRAINS	EACH	88
50300130	PREFORMED JOINT SEAL 4"	FOOT	30
50300150	NEOPRENE EXPANSION JOINT 2"	FOOT	58
50300160	NEOPRENE EXPANSION JOINT 4"	FOOT	29
50300225	CONCRETE STRUCTURES	CU.YD.	7.6
50300255	CONCRETE SUPER STRUCTURES	CU.YD.	487.2
50300260	BRIDGE DECK GROOVING	SQ.YD.	1,654
50300300	PROTECTIVE COAT	SQ.YD.	1,949
50301245	FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ.FT.	17
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2,030
50500505	STUD SHEAR CONNECTORS	EACH	4,560
50501005	JACK AND REPOSITION BEARINGS	EACH	1
50501110	STRUCTURAL STEEL REMOVAL	POUND	1,290
50600600	CLEANING AND PAINTING STEEL BRIDGE NO.1	L. SUM	1
50600700	CLEANING AND PAINTING STEEL BRIDGE NO.2	L. SUM	1
50606301	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 1	L. SUM	1
50606302	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 2	L. SUM	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	115,550
50900605	HANDRAIL REMOVAL	FOOT	1,377
50901001	STEEL BRIDGE RAIL	FOOT	1,393
51500100	NAME PLATES	EACH	1
63100035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
63200305	STEEL PLATE BEAM GUARD RAIL REMOVAL	FOOT	114
90103700	TRAFFIC CONTROL COMPLETE	L. SUM	1
Z0001500	APPROACH SLAB REMOVAL AND REPLACEMENT	SQ.YD.	43
Z0017900	DRAINAGE SCUPPERS	EACH	12



PROPOSED APPROACH ROADWAY TYPICAL SECTION

- ① APPROACH SLAB REMOVAL & REPLACEMENT
FROM STA. 150+93.75 TO STA. 151+01.75
FROM STA. 157+98.25 TO STA. 158+06.25
- ② AGGREGATE SHOULDERS, TYPE B
FROM LT. & RT. STA. 150+50.00 TO LT. & RT. STA. 151+01.75
FROM LT. & RT. STA. 157+98.25 TO LT. & RT. STA. 158+12.00

GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

FOR JOINT UTILITY INFORMATION : CALL TOLL FREE 800-892-0123. KNOWN UTILITIES WITHIN THE PROJECT LIMITS ARE AS FOLLOWS:

SPRINT/CENDEL
ENGINEERING DEPT.
416 MARGARET ST.
PEKIN, IL. 61554
309-477-0361

CENTRAL ILLINOIS LIGHT CO.
ELECTRICAL ENGINEERING DEPT.
300 LIBERTY ST.
PEORIA, IL. 61602
309-693-4732

ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE RIGHT-OF-WAY AND EASEMENTS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER.

ESTIMATED QUANTITIES

ITEM	RATE OF APPLICATION	QUANTITIES
SEEDING, CLASS II (SPECIAL)		0.1 ACRE
NITROGEN FERTILIZER NUTRIENTS	= 100 LBS./ACRE	10 POUNDS
PHOSPHORUS FERTILIZER NUTRIENTS	= 100 LBS./ACRE	10 POUNDS
POTASSIUM FERTILIZER NUTRIENTS	= 100 LBS./ACRE	10 POUNDS
MULCH METHOD 2		0.1 ACRE

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

THE COST OF CONSTRUCTING EMBANKMENT FOR TRAFFIC BARRIER TERMINALS SHALL BE INCLUDED IN THE PRICE FOR THE BARRIER TERMINALS.

THE COST OF EXCAVATION FOR CONSTRUCTION OF AGG. SHLDRS. SHALL BE INCLUDED IN THE PRICE FOR AGGREGATE SHOULDERS, TYPE B.

FINAL STRIPING SHALL BE DONE BY OTHERS.

Contract 89634
Sheet 107

DANIEL SAPP, EST.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 461	(*)	TAZEWELL	16	3
FED. ROAD DIST. NO.		ILLINOIS PROJECT BHS-461 (114)		
(*)93-00010-11-BR				

AGGREGATE SHOULDERS, TYPE B

LOCATION	QUANTITY
LT. & RT. STA. 150 + 50.00 TO STA. 151 + 01.75	22
LT. & RT. STA. 157 + 98.25 TO STA. 158 + 12.00	6
TOTAL	28 TON

TRAFFIC BARRIER TERMINAL TYPE 5A

LOCATION	QUANTITY
LT. & RT. STA. 150 + 88.50 TO LT. & RT. STA. 151 + 01.75	2
LT. STA. 157 + 98.12 TO LT. STA. 158 + 11.37	1
RT. STA. 157 + 98.71 TO RT. STA. 158 + 11.96	1
TOTAL	4 EACH

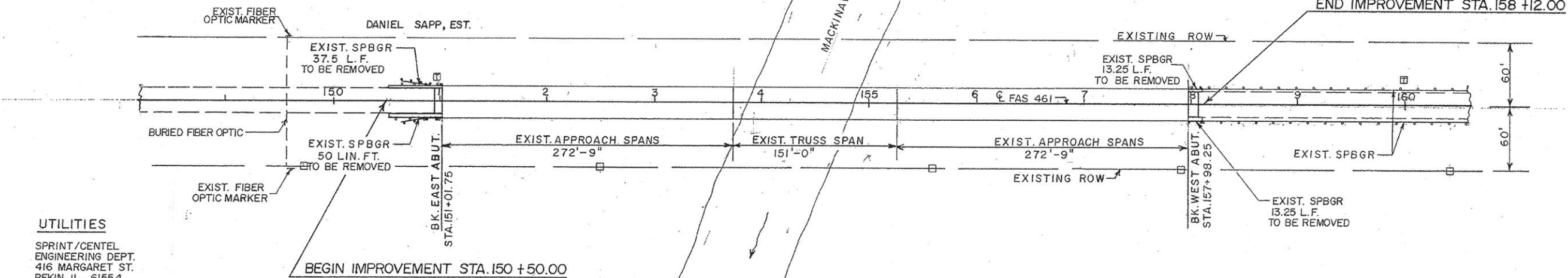
TRAFFIC BARRIER TERMINAL TYPE I

LOCATION	QUANTITY
LT. & RT. STA. 150 + 63.50 TO LT. & RT. STA. 150 + 88.50	2
TOTAL	2 EACH

APPROACH SLAB REMOVAL & REPLACEMENT

LOCATION	QUANTITY
STA. 150 + 93.75 TO STA. 151 + 01.75	21.3
STA. 157 + 98.25 TO STA. 158 + 06.25	21.3
TOTAL	42.7 SQ. YD. USE = 43 SQ. YD.

DATE	
BY	
PROJECT	
DESIGNED BY	
CHECKED BY	
IN CHARGE	
SCALE	
DATE	
BY	
PROJECT	
DESIGNED BY	
CHECKED BY	
IN CHARGE	
SCALE	
DATE	
BY	
PROJECT	
DESIGNED BY	
CHECKED BY	
IN CHARGE	
SCALE	
DATE	



UTILITIES

SPRINT/CENTEL
ENGINEERING DEPT.
416 MARGARET ST.
PEKIN, IL. 61554
309-477-0361

CENTRAL ILLINOIS LIGHT CO.
ELECTRICAL ENGINEERING DEPT.
300 LIBERTY ST.
PEORIA, IL. 61602
309-693-4732

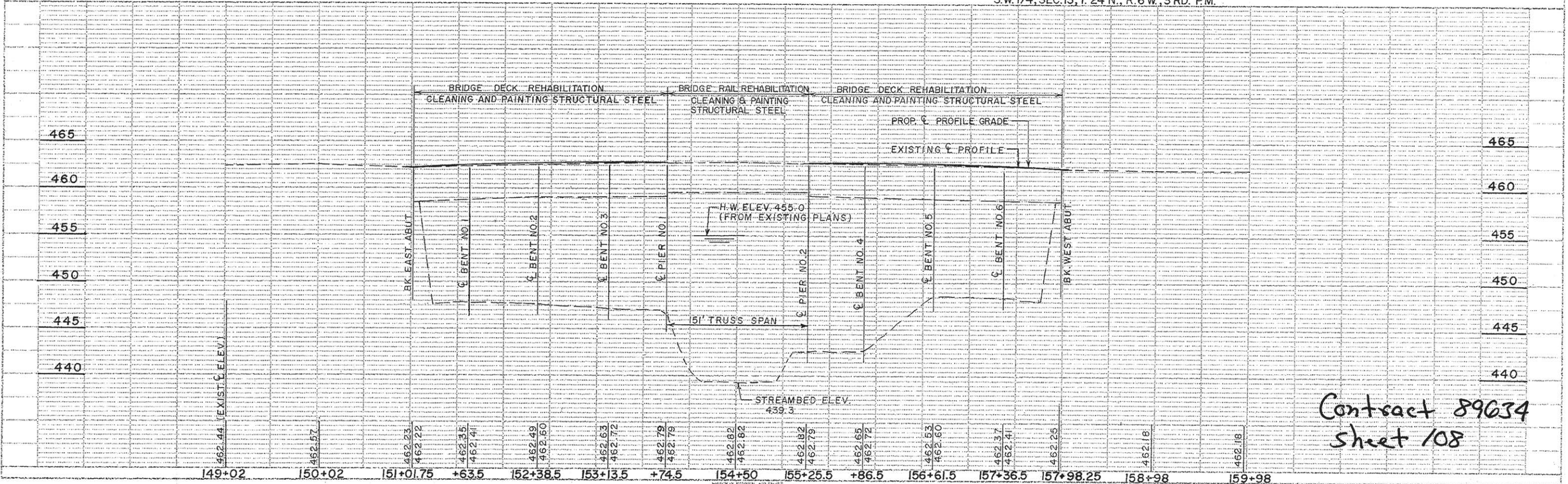
DANIEL SAPP, EST.

B.M. TOP OF PIER CAP - BENT NO. 1
15' LT. STA. 151 + 63.5 - ELEV. 457.77

DANIEL SAPP, EST.

S.W. 1/4, SEC. 13, T. 24 N., R. 6 W., 3 RD. P.M.

DATE	
BY	
PROJECT	
DESIGNED BY	
CHECKED BY	
IN CHARGE	
SCALE	
DATE	
BY	
PROJECT	
DESIGNED BY	
CHECKED BY	
IN CHARGE	
SCALE	
DATE	



Contract 89634
Sheet 108

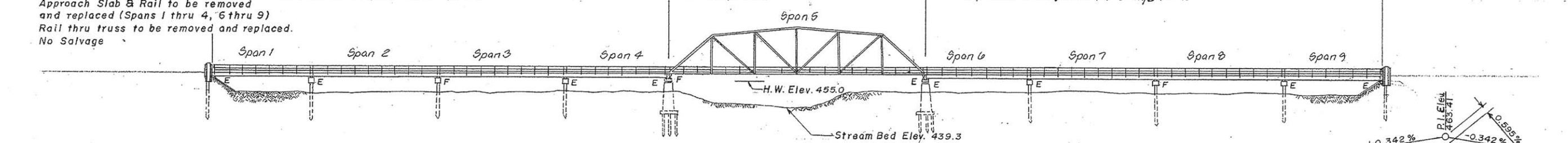
B.M. Top of Cap-Bent #1-Elev. 457.77

Existing Structure:
 Approach Slab & Rail to be removed and replaced (Spans 1 thru 4, 6 thru 9)
 Rail thru truss to be removed and replaced.
 No Salvage

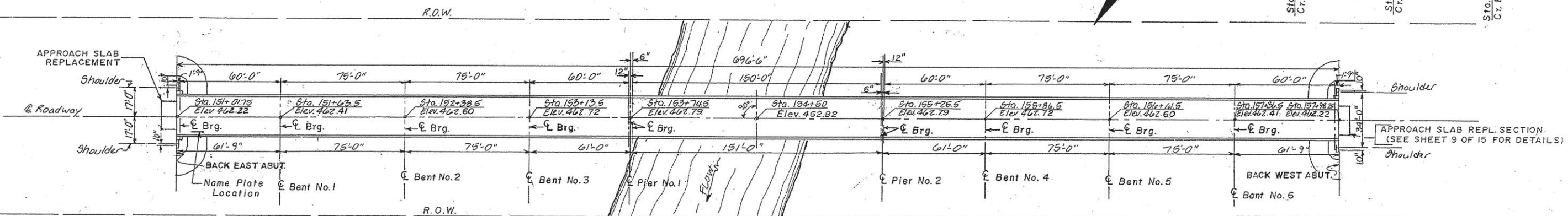
Specified portions of existing structural steel in the Approach Spans to be cleaned and painted as designated for Bridge No. 2

Truss Span to be cleaned & painted as designated for Bridge No. 1

Specified portions of existing structural steel in the Approach Spans to be cleaned and painted as designated for Bridge No. 2



ELEVATION



PLAN

TOTAL BILL OF MATERIAL

MACKINAW RIVER
 REBUILT 199 BY
 TAZEWELL COUNTY
 SECTION 93-00010-11-BR
 F.A.S. ROUTE 461 STA. 154+50
 F.A. PROJ. BHS-461 (114)
 STR. NO. 090-3001, LOADING HS 15

NAME PLATE
 (SEE STD. 2113)

GENERAL NOTES (CONTINUED)

GENERAL NOTES

FASTENERS SHALL BE HIGH STRENGTH BOLTS (AASHTO M 164, TYPE 3). BOLTS 3/4", OPEN HOLES 13/16", UNLESS OTHERWISE NOTED.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE OF ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

PRIOR TO POURING THE NEW CONCRETE FOR THE DECK, ALL LOOSE RUST, LOOSE MILL SCALE, AND ALL OTHER LOOSE, DETRIMENTAL FOREIGN MATERIAL SHALL BE REMOVED FROM THE EMBEDDED PORTION OF FLANGES OF STRINGERS. THE REMOVAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SSPC SURFACE PREPARATION SPECIFICATIONS SP-3 FOR POWER TOOL CLEANING OR SP-2 FOR HAND TOOL CLEANING. COST SHALL BE INCIDENTAL TO REMOVAL OF EXISTING CONCRETE DECK.

THE CONTRACTOR WILL BE REQUIRED TO MARK ON TOP OF THE BITUMINOUS SURFACING OF THE CONCRETE DECK THE LOCATIONS OF THE TOP FLANGE OF ALL THE STEEL BEAMS OR GIRDERS, PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAW CUTTING DIRECTLY OVER THE TOP OF THE BEAM OR GIRDER FLANGES IS NOT PERMITTED.

CLEANING AND PAINTING OF THE EXISTING TRUSS SPAN STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "EXISTING STEEL OVERCOAT SYSTEM". ALL EXISTING STRUCTURAL STEEL SHALL BE CLEANED BY METHOD 2. THE CALCIUM SULFONATE PAINT SYSTEM AS DEFINED IN THE "EXISTING STEEL OVERCOAT SYSTEM" SHALL BE USED FOR PAINTING OF EXISTING STRUCTURAL STEEL. THE PRIME COAT SHALL BE APPLIED AS SPECIFIED IN THE SPECIAL PROVISIONS FOLLOWED BY ONE COMPLETE FINAL FINISH COAT OVER ALL STEEL SURFACE. THE COLOR OF THE FINAL FINISH COAT SHALL BE LIGHT GREY, MUNSELL NO. 10Y 7/1.

THE FOLLOWING PORTIONS OF THE EXISTING STRUCTURAL STEEL IN THE APPROACH SPANS SHALL BE CLEANED AND PAINTED AS SPECIFIED IN THE SPECIAL PROVISIONS "CLEANING AND PAINTING EXISTING STEEL STRUCTURES".

1. THE ENTIRE BOTTOM FLANGE AND ALL OUTSIDE SURFACES OF THE EXTERIOR BEAMS IN SPANS 1, 2, 3, 4, 6, 7, 8, 9.
2. THE END DIAPHRAGMS AT THE EAST END OF SPAN 6 (EXCEPT THE REPLACED DIAPHRAGM ON THE NORTH SIDE).
3. THE CENTER BEARING ASSEMBLY AND ADJACENT BEARING ASSEMBLY ON THE NORTH SIDE OF THE CENTER BEAM AT THE EAST END OF SPAN 6.
4. THE LAST 3 FEET OF THE BOTTOM FLANGE OF THE CENTER BEAM AT THE EAST END OF SPAN 6.

ALL OF THE SURFACES OF THE EXISTING STRUCTURAL STEEL AS OUTLINED ABOVE SHALL BE CLEANED BY METHOD 2. THE LEAD AND CHROMATE FREE ALKYLID PAINT SYSTEM SHALL BE USED. THE PRIME AND INTERMEDIATE COATS SHALL BE APPLIED AS SPECIFIED IN THE SPECIAL PROVISIONS, FOLLOWED BY A FULL FINAL FINISH COAT OVER ALL DESIGNATED STEEL SURFACES. THE COLOR OF THE FINAL FINISH COAT SHALL BE INTERSTATE GREEN, MUNSELL NO. 7.5G 4/8. SEE SPECIAL PROVISIONS AND THE PLANS FOR LOCATIONS.

DESIGN STRESSES

$f_c = 3500$ p.s.i.
 $f_y = 60,000$ p.s.i. (Reinf.)
 $f_y = 36,000$ p.s.i. (Struct.)
 LOADING HS 15-44

WATERWAY INFORMATION

Drainage Area — 766,000 Acres
 Character — Rolling and Cultivated
 Bridge Opening — 8,005 Sq. Ft.
 Equivalent to C=31 (Talbot)

DESIGN SPECIFICATIONS

1992 AASHTO and 1993 Addenda

ITEM	UNIT	QUANTITY	
		SUPER	TOTAL
FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ. FT.	17	17
JACK AND REPOSITION BEARINGS	EACH	1	1
PREFORMED JOINT SEAL 4"	FOOT	30	30
CONCRETE REMOVAL	CU. YD.	9.8	9.8
REMOVAL OF EXISTING CONCRETE DECK	EACH	1	1
STRUCTURE EXCAVATION	CU. YD.	6.0	6.0
FLOOR DRAINS	EACH	88	88
NEOPRENE EXPANSION JOINT 2"	FOOT	58	58
NEOPRENE EXPANSION JOINT 4"	FOOT	29	29
CONCRETE STRUCTURES	CU. YD.	7.6	7.6
CONCRETE SUPERSTRUCTURES	CU. YD.	487.2	487.2
PROTECTIVE COAT	SQ. YD.	1,906	1,906
FURNISH & ERECT STRUCTURAL STEEL	POUND	2,030	2,030
BRIDGE DECK GROOVING	SQ. YD.	1,654	1,654
STUD SHEAR CONNECTORS	EACH	4,560	4,560
STRUCTURAL STEEL REMOVAL	POUND	1,290	1,290
CLEAN AND PAINT STEEL BRIDGE NO. 1	L SUM	1	1
CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1
REINFORCEMENT BARS, EPOXY COATED	POUND	113,860	1,690
HANDRAIL REMOVAL	FOOT	1,377	1,377
STEEL BRIDGE RAIL	FOOT	1,393	1,393
NAME PLATES	EACH	1	1
DRAINAGE SCUPPERS	EACH	12	12
POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 1	L SUM	1	1
POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 2	L SUM	1	1

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT "AASHTO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION."



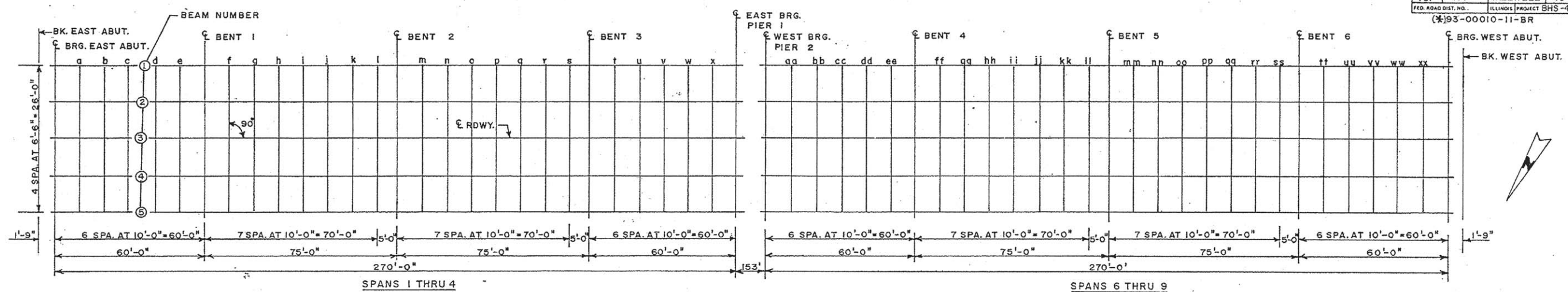
Gerson Ronconan 12-5-94
 ILLINOIS STRUCTURAL NO. 3091 DATE

11-30-95
 LICENSE EXPIRATION DATE

DESIGNED	JWG
CHECKED	JJW
DRAWN	SMP
DATE	8-23-94

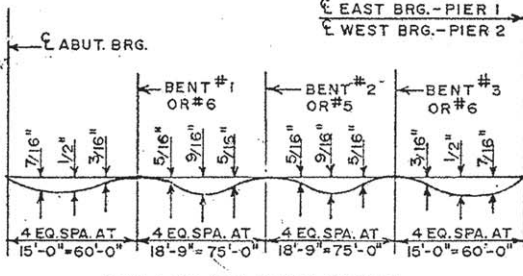
GENERAL PLAN & ELEVATION
 F.A.S. RTE. 461
 SECTION 93-00010-11-BR
 TAZEWELL COUNTY
 STA. 154+50

R.C. ENGINEERS, LTD.
 CONSULTING ENGINEERS

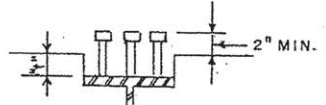


NOTE: ELEVATIONS ARE AT TOP OF CONCRETE
PLAN

GIRDER 1 & 5					GIRDER 1 & 5 CONT.					GIRDER 2 & 4					GIRDER 2 & 4 CONT.					GIRDER 3					GIRDER 3 CONT.																																																																																																																																																																									
LOCATION	STATION	OFFSET	GRADE ELEV.	GRADE ELEV. ADJUSTED FOR D DEFL.	LOCATION	STATION	OFFSET	GRADE ELEV.	GRADE ELEV. ADJUSTED FOR D DEFL.	LOCATION	STATION	OFFSET	GRADE ELEV.	GRADE ELEV. ADJUSTED FOR D DEFL.	LOCATION	STATION	OFFSET	GRADE ELEV.	GRADE ELEV. ADJUSTED FOR D DEFL.	LOCATION	STATION	OFFSET	GRADE ELEV.	GRADE ELEV. ADJUSTED FOR D DEFL.	LOCATION	STATION	OFFSET	GRADE ELEV.	GRADE ELEV. ADJUSTED FOR D DEFL.																																																																																																																																																																					
Bk. E. Abut.	15101.750	-13.000	462.106	462.106	Bent#5	15661.500	-13.000	462.482	462.482	Bk. E. Abut.	15101.750	-6.500	462.191	462.191	Bent#5	15661.500	-6.500	462.567	462.567	Bk. E. Abut.	15101.750	.000	462.219	462.219	Bent#5	15661.500	.000	462.595	462.595																																																																																																																																																																					
Brg. E. Abut.	15103.500	-13.000	462.112	462.112	mm	15671.500	-13.000	462.461	462.474	Brg. E. Abut.	15103.500	-6.500	462.197	462.197	nn	15681.500	-13.000	462.545	462.558	Brg. E. Abut.	15103.500	.000	462.225	462.225	oo	15691.500	-13.000	462.439	462.464																																																																																																																																																																					
a	15113.500	-13.000	462.146	462.170	oo	15691.500	-13.000	462.415	462.453	a	15113.500	-6.500	462.230	462.254	pp	15701.500	-13.000	462.476	462.519	b	15123.500	-13.000	462.178	462.216	qq	15711.500	-13.000	462.366	462.398	c	15123.500	-6.500	462.263	462.301	rr	15721.500	-13.000	462.340	462.359	d	15133.500	-13.000	462.210	462.25	ss	15731.500	-13.000	462.313	462.319	e	15143.500	-13.000	462.241	462.267	Bent#6	15736.500	-13.000	462.299	462.299	f	15143.500	-6.500	462.294	462.337	tt	15746.500	-13.000	462.270	462.282	g	15153.500	-13.000	462.270	462.282	uu	15756.500	-13.000	462.241	462.267	h	15153.500	-6.500	462.355	462.367	vv	15766.500	-13.000	462.210	462.252	i	15153.500	-6.500	462.355	462.367	ww	15776.500	-13.000	462.178	462.216	j	15153.500	-6.500	462.355	462.367	xx	15786.500	-13.000	462.146	462.170	k	15153.500	-6.500	462.355	462.367	Brg. W. Abut.	15796.500	-13.000	462.112	462.112	l	15153.500	-6.500	462.355	462.367	Bent#1	15163.500	-13.000	462.299	462.299	m	15163.500	-13.000	462.270	462.282	nn	15173.500	-13.000	462.326	462.339	o	15163.500	-6.500	462.383	462.383	oo	15173.500	-13.000	462.326	462.339	pp	15173.500	-6.500	462.411	462.424	qq	15173.500	-13.000	462.353	462.379	rr	15173.500	-6.500	462.411	462.424	ss	15173.500	-13.000	462.353	462.379	tt	15173.500	-6.500	462.411	462.424	uu	15173.500	-13.000	462.353	462.379	vv	15173.500	-6.500	462.411	462.424	ww	15173.500	-13.000	462.353	462.379	xx	15173.500	-6.500	462.411	462.424



DEAD LOAD DEFLECTION DIAGRAM
LOOKING SOUTH (SPAN 1 THRU 4)
LOOKING NORTH (SPAN 6 THRU 9)
NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS SHOWN.

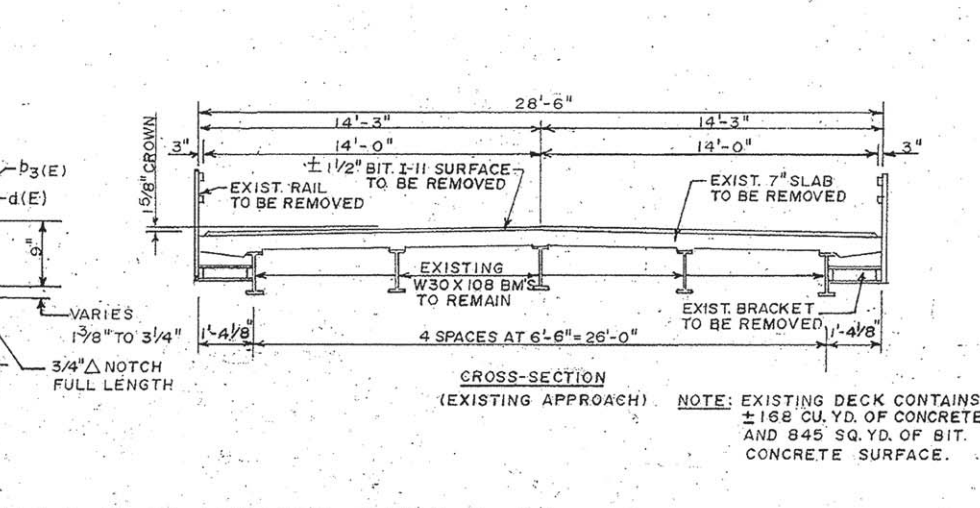
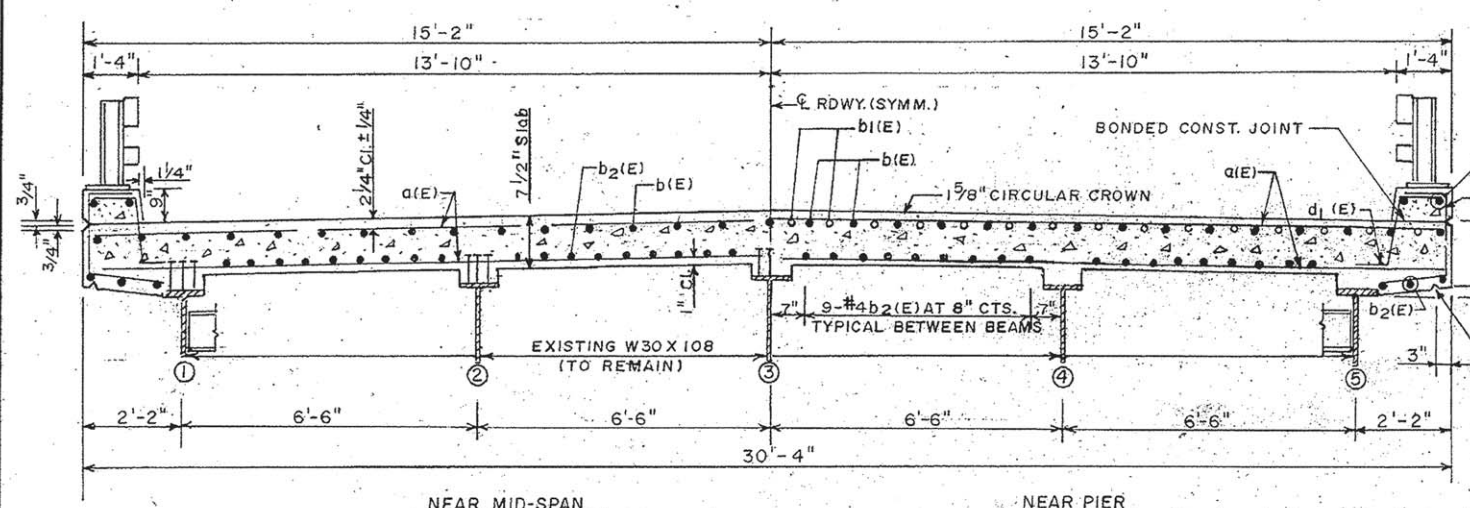
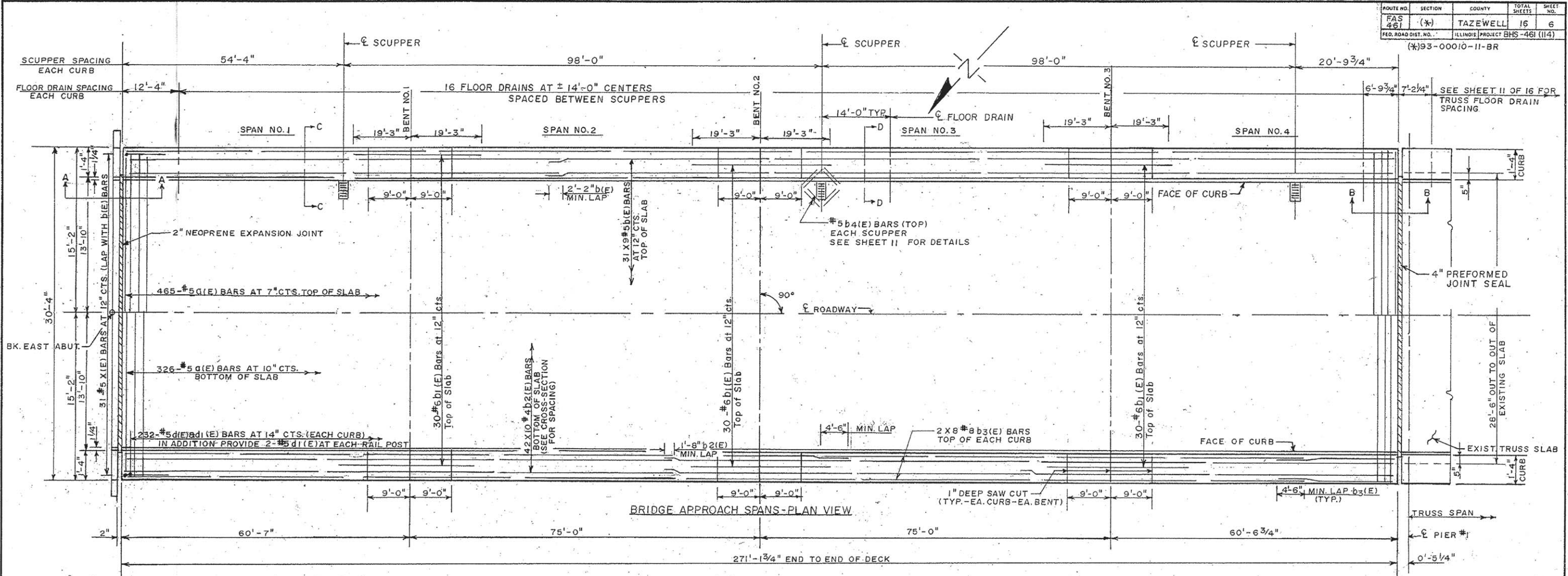


TO DETERMINE "ELEVATIONS OF TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN IN PLAN. THESE ELEVATIONS, SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN, MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHT "ABOVE TOP FLANGES OF BEAM. " SHALL BE DETERMINED BEFORE DETERMINING LENGTH OF STUDS REQUIRED.

ELEVATIONS-TOP OF SLAB
F.A.S. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY
R.C. ENGINEERS, LTD.
CONSULTING ENGINEERS

DESIGNED: JWG DRAWN: SSK
CHECKED: JJW DATE: 8-23-94

Contact 89634 Sheet 110

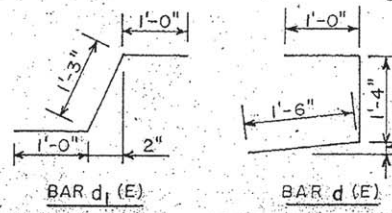


BILL OF MATERIAL SPANS NO. 1 THRU NO. 4 INCL.

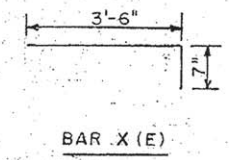
BAR NO.	SIZE	LENGTH	SHAPE
a(E)	791 #5	30'-0"	—
b(E)	279 #5	32'-1"	—
b1(E)	90 #6	38'-6"	—
b2(E)	420 #4	28'-8"	—
b3(E)	32 #8	38'-0"	—
b4(E)	48 #5	2'-6"	—
d(E)	464 #5	3'-10"	—
d1(E)	644 #5	3'-3"	—
X(E)	31 #5	4'-1"	—
CONCRETE SUPERSTRUCTURE		CU. YD.	234.6
REINFORCEMENT BARS, EPOXY COATED		POUND	54,880
NEOPRENE EXP. JOINT 2"		LIN. FT.	29
REMOVAL OF EXISTING CONCRETE DECK		EACH	0.5
PROTECTIVE COAT		SQ. YD.	.953
PREFORMED JOINT SEAL 4"		LIN. FT.	30.0

DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

BRIDGE APPROACH-CROSS SECTION (LOOKING WEST)

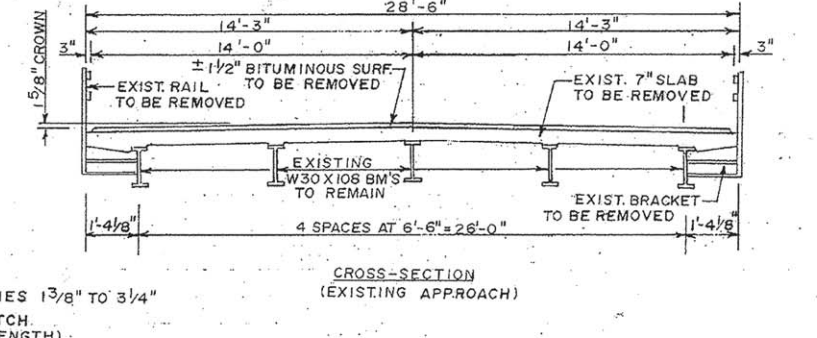
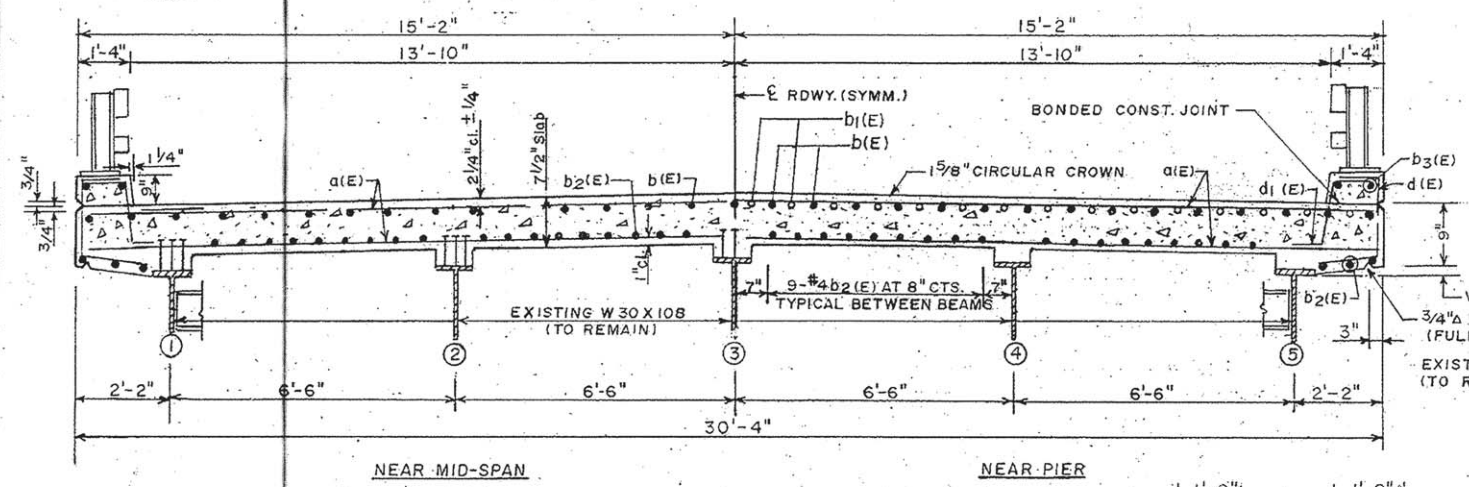
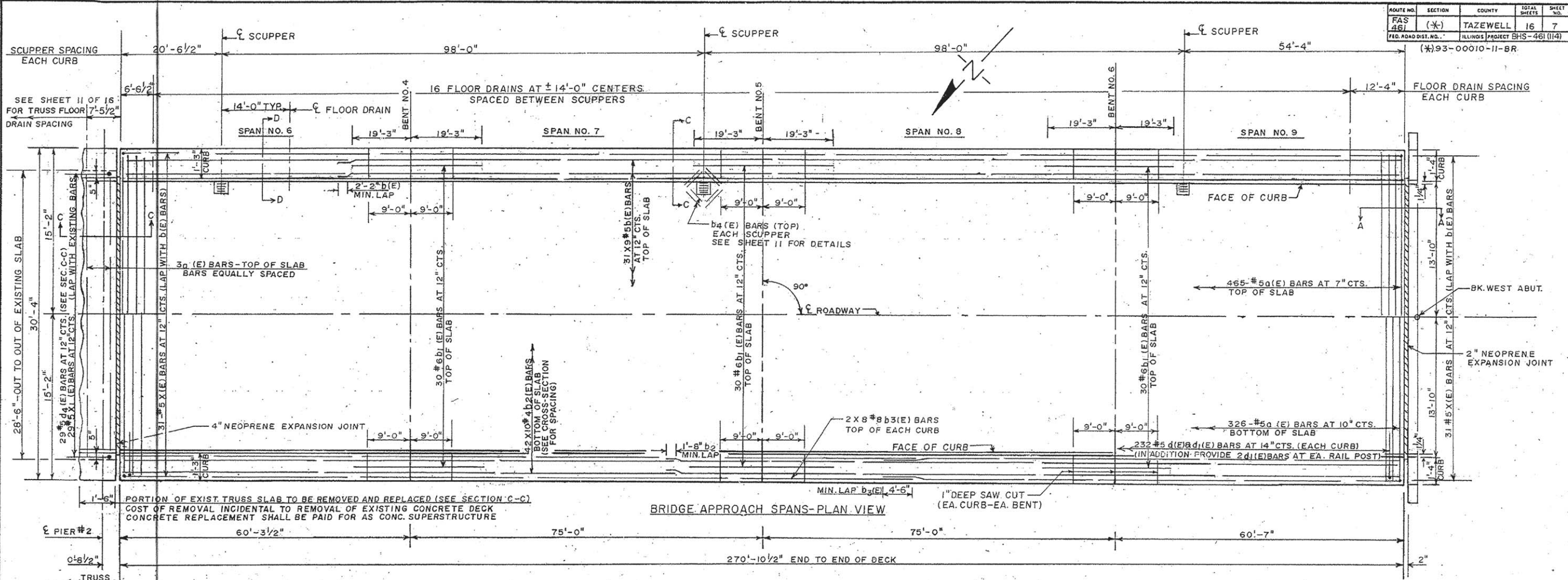


Notes: See Sheet 8 of 16 for Section A-A & Section B-B. Reinforcement designated (E) shall be epoxy coated. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line. For details of existing rail post connection, See Sheet 8 of 16. See Sheet 11 of 16 for Section C-C & D-D. Space Scuppers & Floor Drains to miss Diaphragms & Bents.



EAST DECK SLAB SPANS NO. 1 THRU 4 INCL. FAS. ROUTE 461 SECTION 93-00010-II-BR TAZEWELL COUNTY

R.C. ENGINEERS, LTD. CONSULTING ENGINEERS

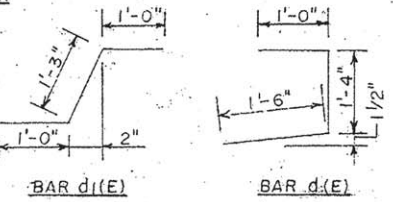


BILL OF MATERIAL
SPANS NO. 6 THRU NO. 9 INCL.

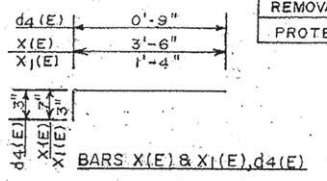
BAR NO.	SIZE	LENGTH	SHAPE
d1(E)	791	#5	30'-0"
b1(E)	279	#5	32'-1"
b1(E)	90	#6	38'-6"
b2(E)	420	#4	28'-8"
b3(E)	32	#8	38'-0"
b4(E)	48	#5	2'-6"
d1(E)	464	#5	3'-10"
d1(E)	644	#5	3'-3"
X(E)	62	#5	4'-1"
CONCRETE SUPERSTRUCTURE			CU. YD. 234.4
REINFORCING BARS, EPOXY COATED			LBS. 54,880
NEOPRENE EXP. JOINT 2"			LIN. FT. 29
NEOPRENE EXP. JOINT 4"			LIN. FT. 29
REMOVAL OF EXIST. CONC. DECK			EACH 0.5
PROTECTIVE COAT			SQ. YD. 953

DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

BRIDGE APPROACH-CROSS SECTION
(LOOKING WEST)



Notes: See Sheet 8 of 16 for Section A-A & Section C-C. Reinforcement designated (E) shall be epoxy coated. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line. For details of existing rail post connection, See Sheet 8 of 16. See Sheet 11 of 16 for Section C-C & D-D. Space Scuppers & Floor Drains to miss Diaphragms & Bents.

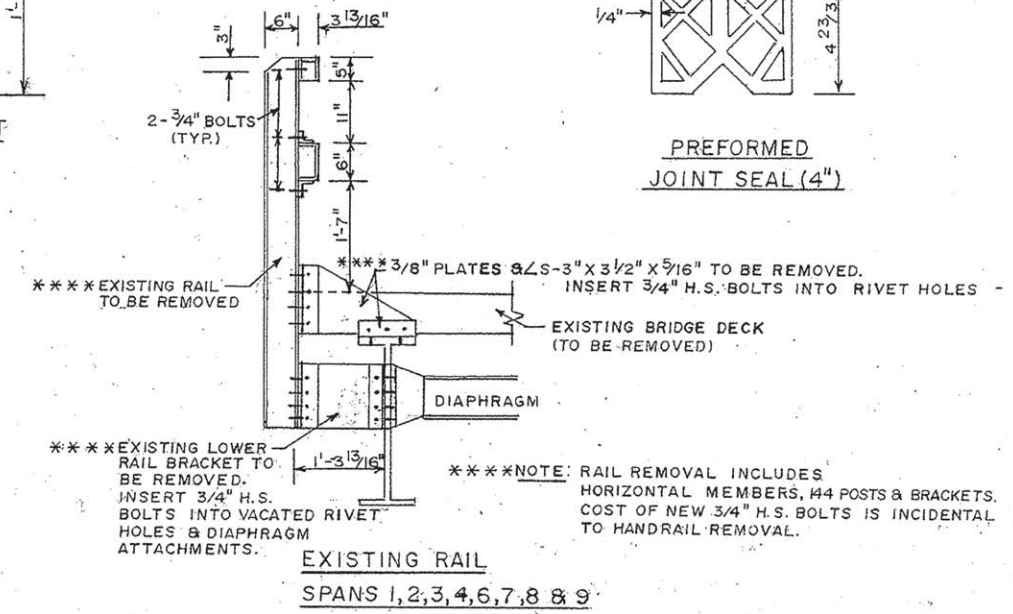
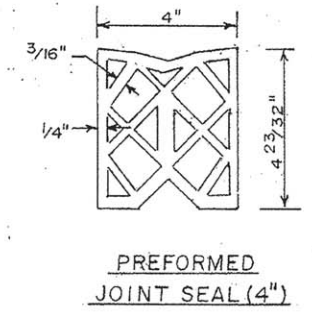
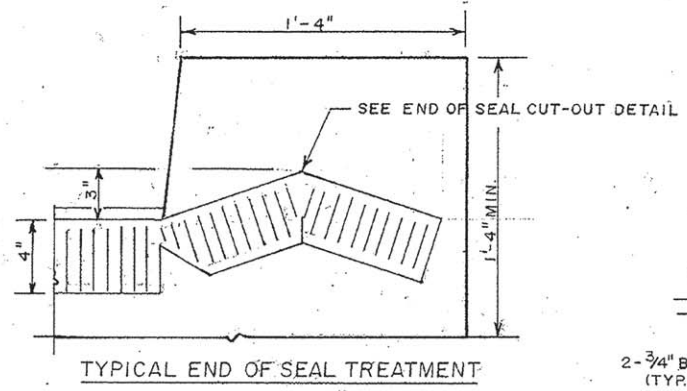
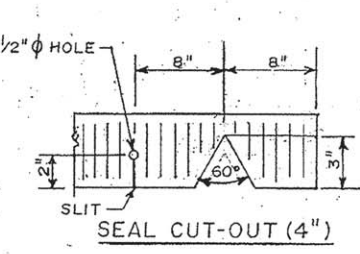
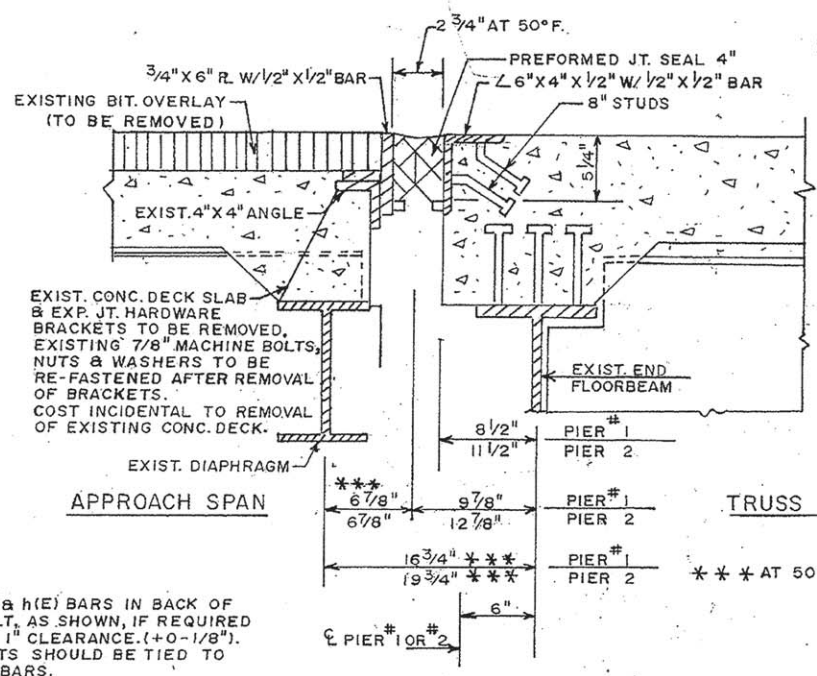


WEST DECK SLAB
SPANS NO. 6 THRU 9 INCL.
FAS. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY

R C ENGINEERS, LTD.
CONSULTING ENGINEERS

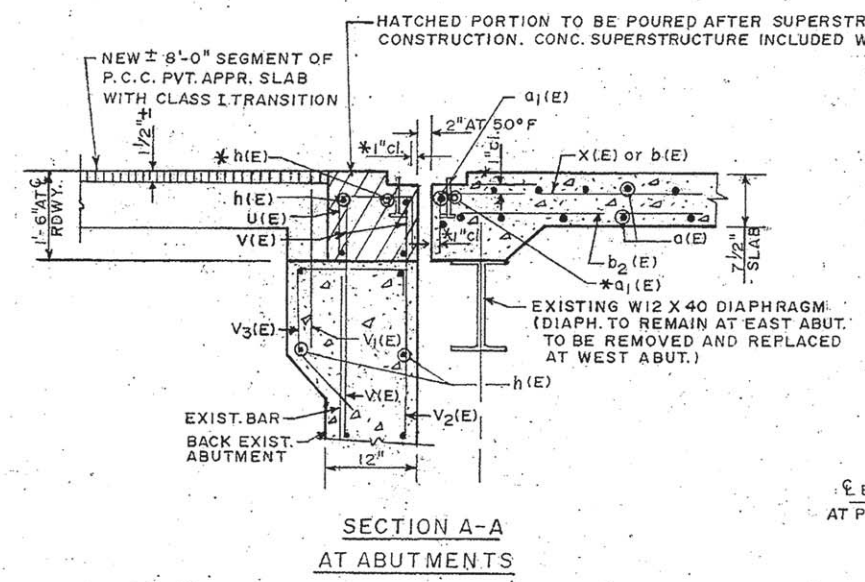
Contract 89634 Sheet 112

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 461	(*)	TAZEWELL	16	8
FED. ROAD DIST. NO.	ILLINOIS PROJECT	BHS-461(114)		
(*)93-00010-11-BR				

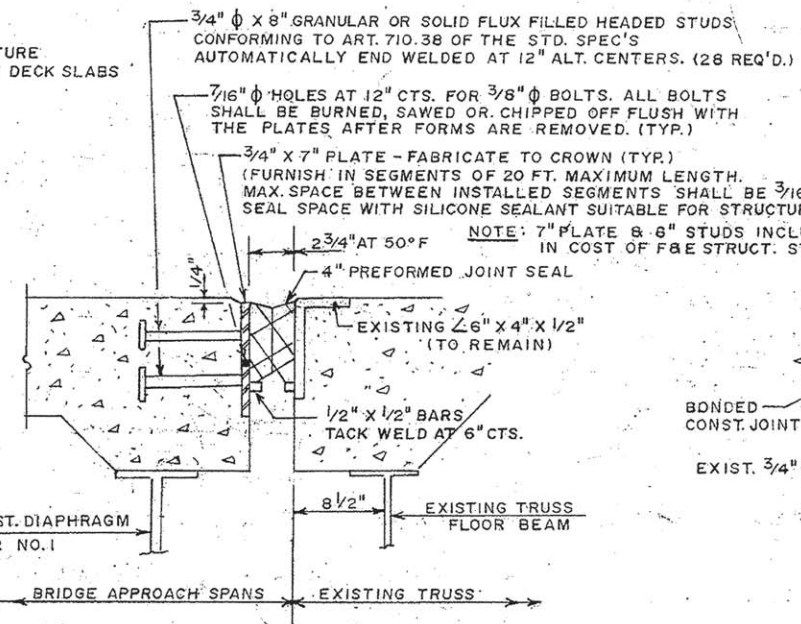


* PLACE a₁(E) & h₁(E) BARS IN BACK OF ANCHOR BOLT, AS SHOWN, IF REQUIRED TO MAINTAIN 1" CLEARANCE. (+0-1/8"). ANCHOR BOLTS SHOULD BE TIED TO a₁(E) & h₁(E) BARS.

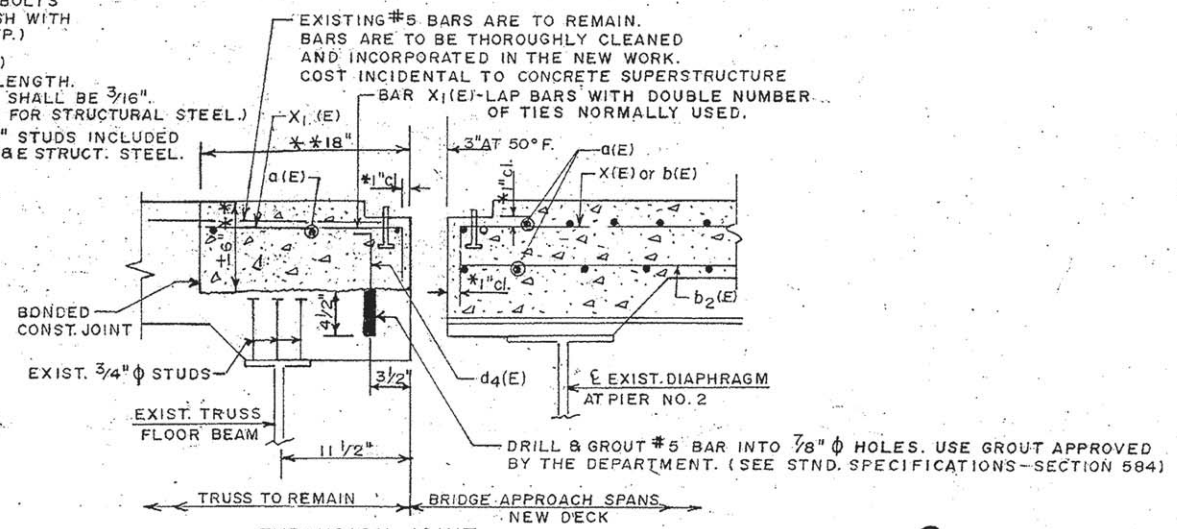
EXISTING EXPANSION JOINT AT PIERS #1 & #2



SECTION A-A AT ABUTMENTS



EXPANSION JOINT PIER NO. 1 SECTION B-B



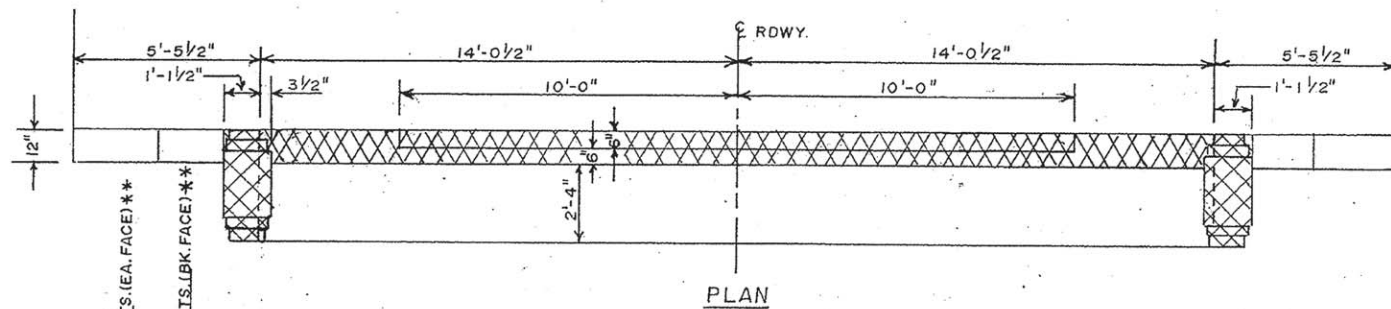
EXPANSION JOINT PIER NO. 2 SECTION C-C

** REMOVE EXISTING CONCRETE AND L6\"/>

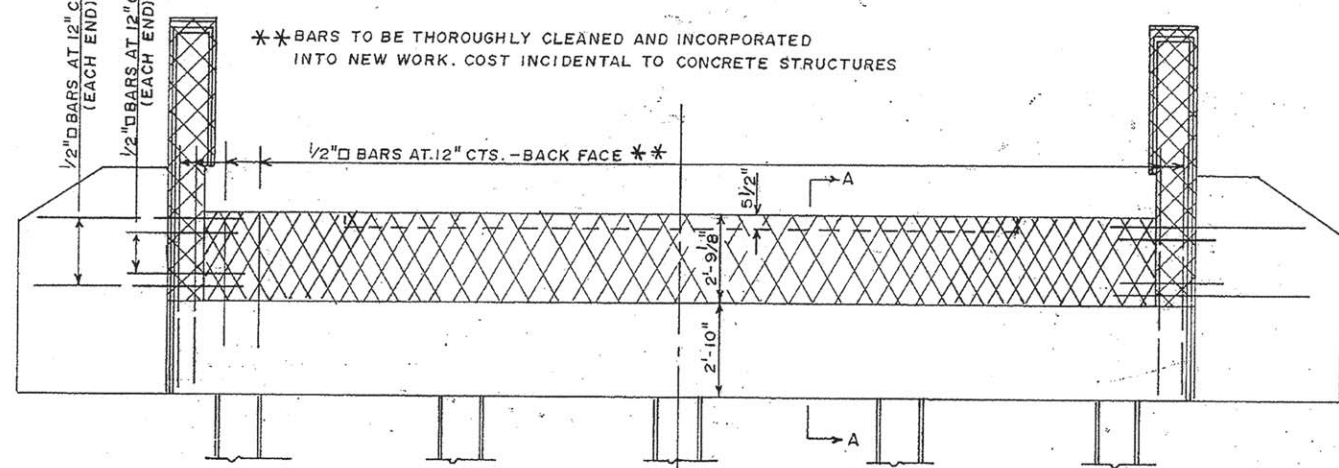
Contract 89634
Sheet 113

DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

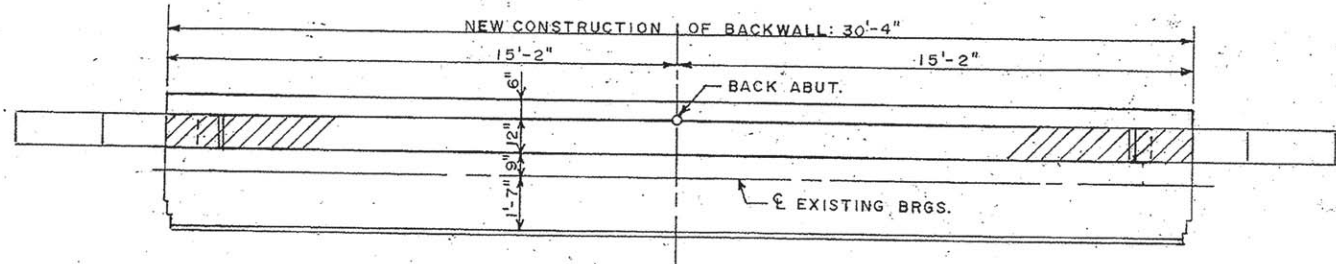
SECTIONS THRU DECK
F.A.S. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY
R C ENGINEERS, LTD.
CONSULTING ENGINEERS



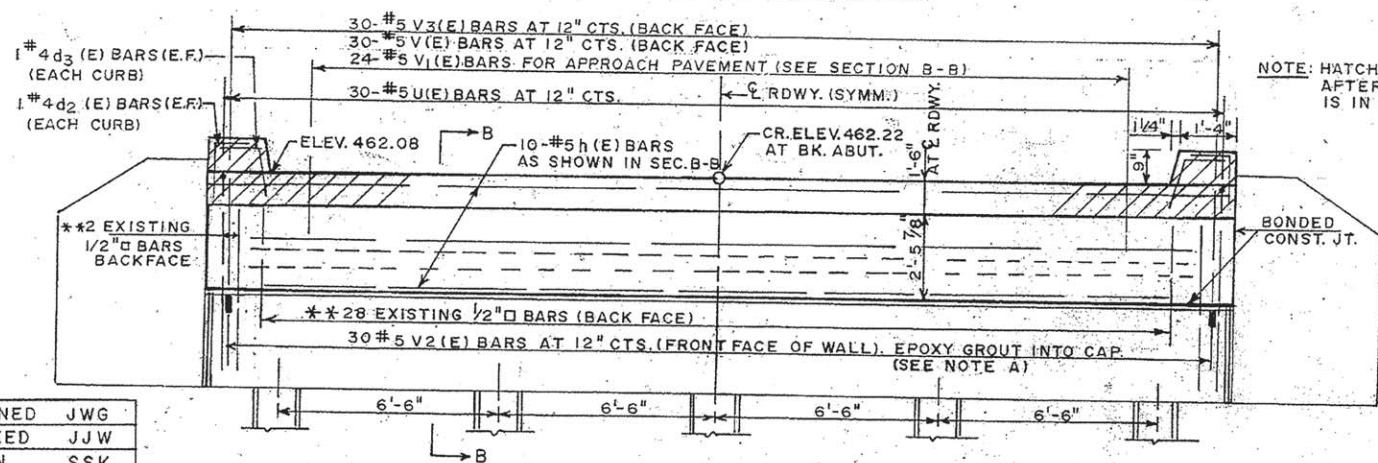
** BARS TO BE THOROUGHLY CLEANED AND INCORPORATED INTO NEW WORK. COST INCIDENTAL TO CONCRETE STRUCTURES



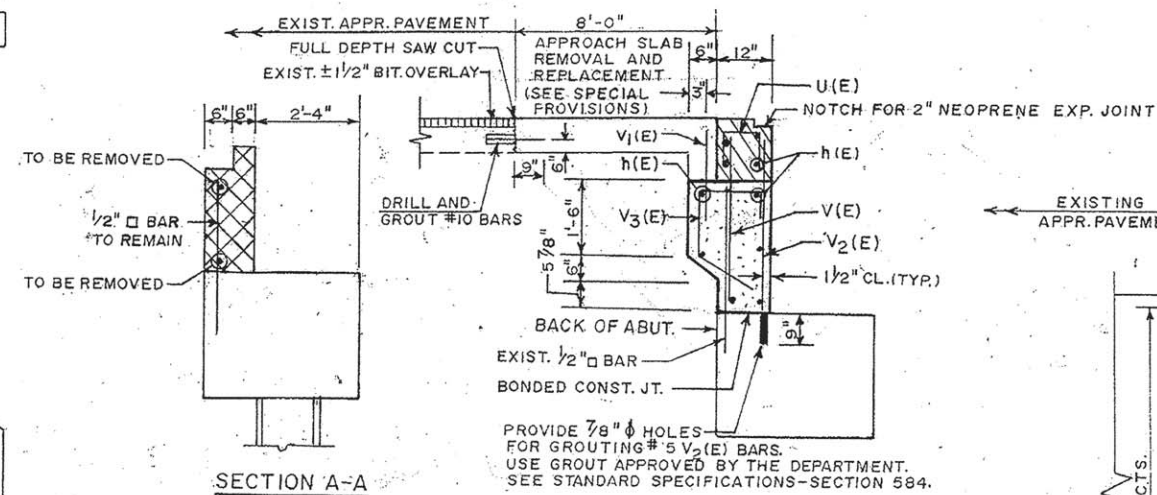
ELEVATION
EXISTING E & W ABUTMENTS
CROSS-HATCHED AREA INDICATES LIMITS OF CONCRETE REMOVAL



PLAN OF EXISTING EAST AND WEST ABUTMENTS
(SHOWING NEW CONSTRUCTION)

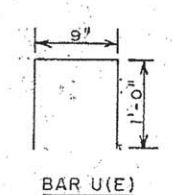


ELEVATION OF EXISTING EAST AND WEST ABUTMENTS (SHOWING NEW CONSTRUCTION)

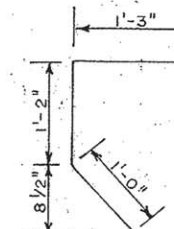


SECTION A-A

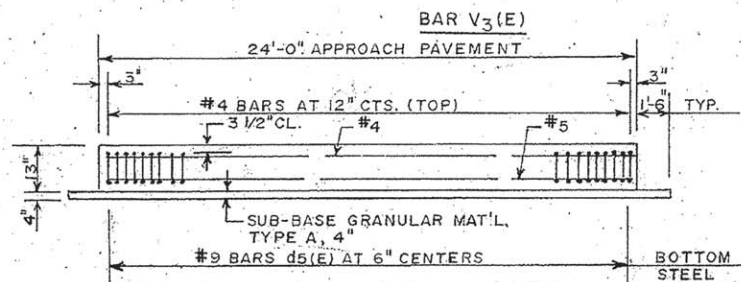
SECTION B-B



BAR U(E)

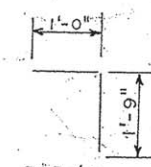


BAR V3(E)

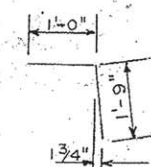


SECTION C-C

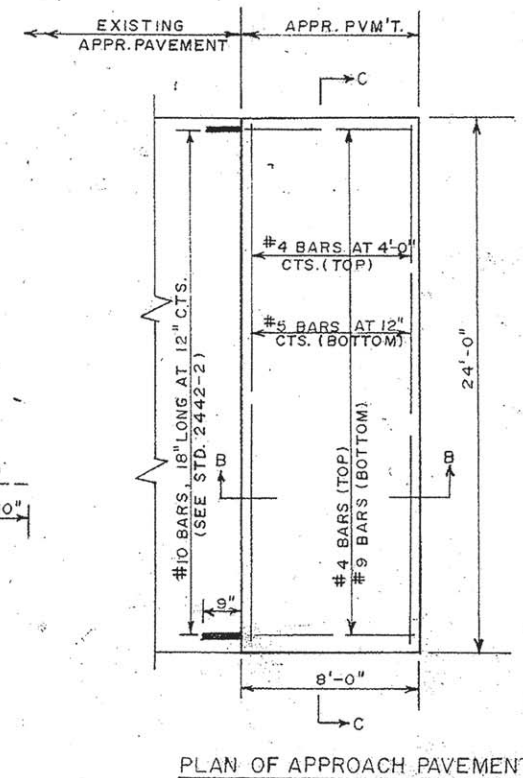
* THE COST OF REINFORCEMENT BARS, DRILLING, GROUTING, TIE-BARS, CONCRETE, SUB-BASE, WELDED WIRE FABRIC AND SAW CUT SHALL BE INCLUDED IN THE UNIT COST FOR REMOVAL AND REPLACEMENT OF APPROACH PAVEMENT. ALL REINF. BARS FOR SLAB SHALL BE EPOXY COATED.



BAR d2



BAR d3



PLAN OF APPROACH PAVEMENT

BILL OF MATERIAL-TWO ABUTMENTS

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	20	#5	30'-0"	—
V(E)	60	#5	3'-9"	—
V1(E)	48	#5	2'-6"	—
V2(E)	60	#5	4'-5"	—
V3(E)	60	#5	3'-11"	—
U(E)	60	#5	2'-9"	┌
d2(E)	8	#4	2'-9"	└
d3(E)	8	#4	2'-9"	└
CONCRETE REMOVAL		CU. YD.	9.8	
CONCRETE STRUCTURES		CU. YD.	7.6	
REINFORCEMENT BARS, EPOXY COATED		LBS.	1,690	
STRUCTURE EXCAVATION		CU. YD.	6.0	

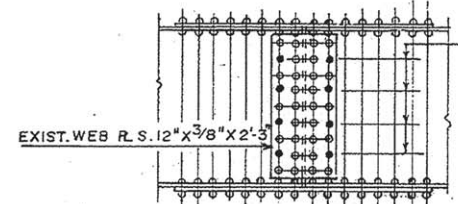
ABUTMENT & APPROACH PVM'T.
F.A.S. ROUTE 461
SECTION 93-00010-II-BR
TAZEWELL COUNTY

R C ENGINEERS, LTD.
CONSULTING ENGINEERS

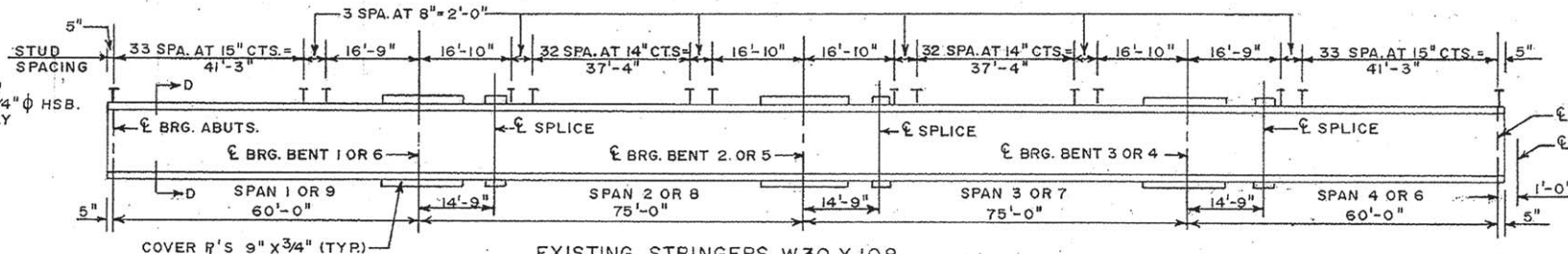
DESIGNED JWJ
CHECKED JJW
DRAWN SSK
DATE 8-23-94

Contract 89634, Sheet 114

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 461	(*)	TAZEWELL	16	10
FED. ROAD DIST. NO.		ILLINOIS PROJECT BHS-461(114)		
(*)93-00010-11-BR				

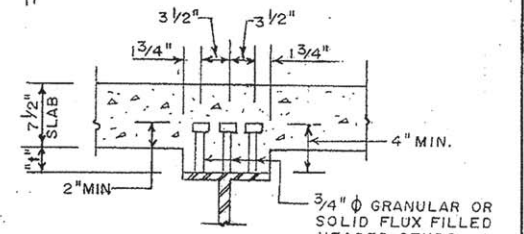


EXISTING WEB SPLICE DETAIL
30 THUS

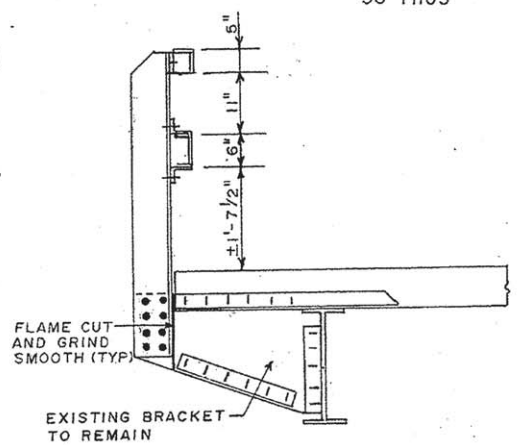


EXISTING STRINGERS W30 X108
STUD SHEAR CONNECTOR SPACING

LOOKING SOUTH-SPANS 1 THRU 4
LOOKING NORTH-SPANS 6 THRU 9
(10 STRINGERS THUS)



SECTION D-D

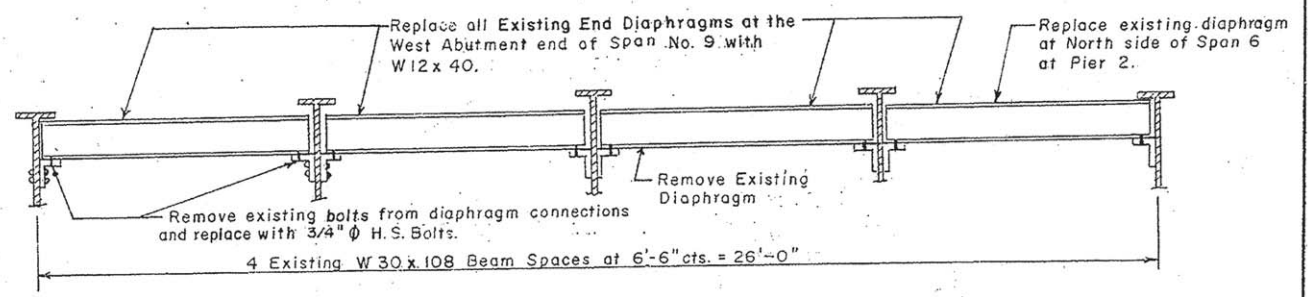


BETWEEN PANEL POINTS

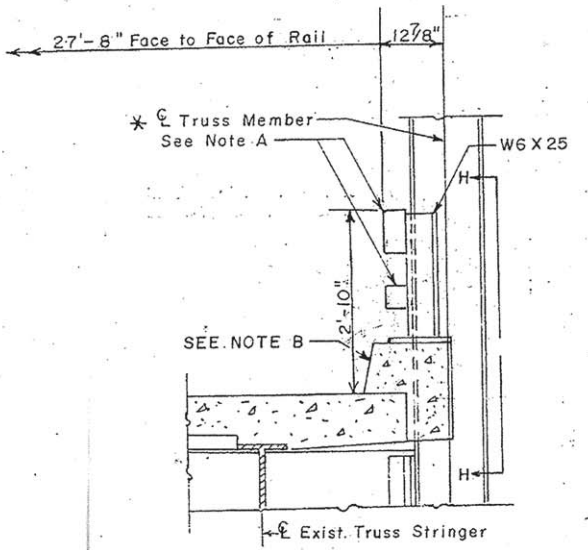
AT PANEL POINTS

EXISTING RAIL THRU TRUSS

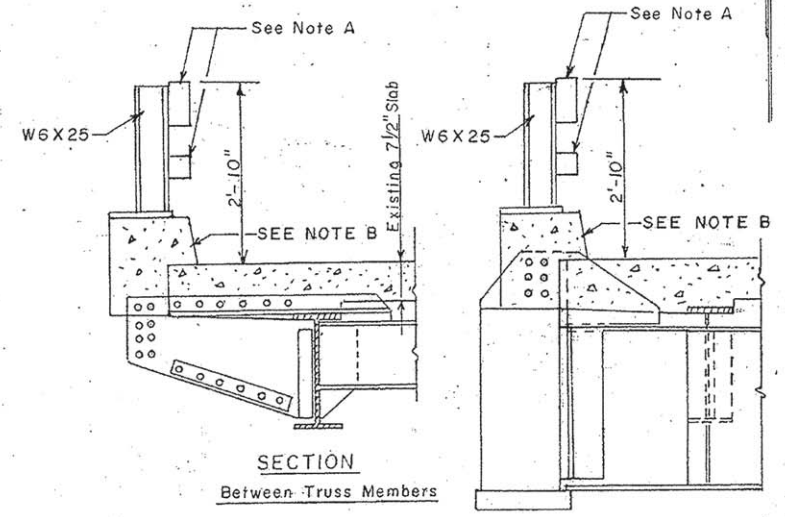
(HORIZONTAL RAIL AND VERTICAL POSTS TO BE REMOVED)



EXISTING CROSS SECTION
Looking West at End Diaphragms

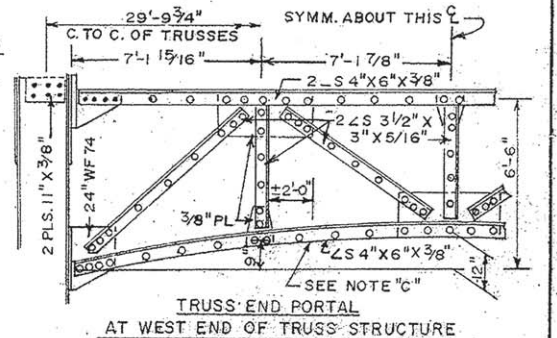


SECTION
At Truss Members



SECTION
Between Truss Members

SECTION
At End Floor Beam



TRUSS END PORTAL
AT WEST END OF TRUSS STRUCTURE

NOTE "C"
THE BOTTOM FLANGE OF THE 4" X 6" X 3/8" ANGLES IS KINKED OUT OF ALIGNMENT AT APPROX. 24" FROM THE VERTICAL MEMBER. STRAIGHTENING IS INCLUDED WITH CLEANING & PAINTING STEEL BRIDGE. S.P.S.

BILL OF MATERIAL		
Stud Shear Connectors	Each	4,560
Furnishing & Erecting Structural Steel	Lbs.	2,030
Structural Steel Removal	Lbs.	1,290

DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

NOTE A: SEE STEEL RAILING, TYPE 2399, SHEET 12 OF 16 FOR ADDITIONAL NOTES AND DETAILS.

NOTE B: FOR DETAILS OF NEW CURB BLOCK ON EXISTING TRUSS DECK; SEE SHEET 11 OF 16.

Contract 89634
Sheet 115

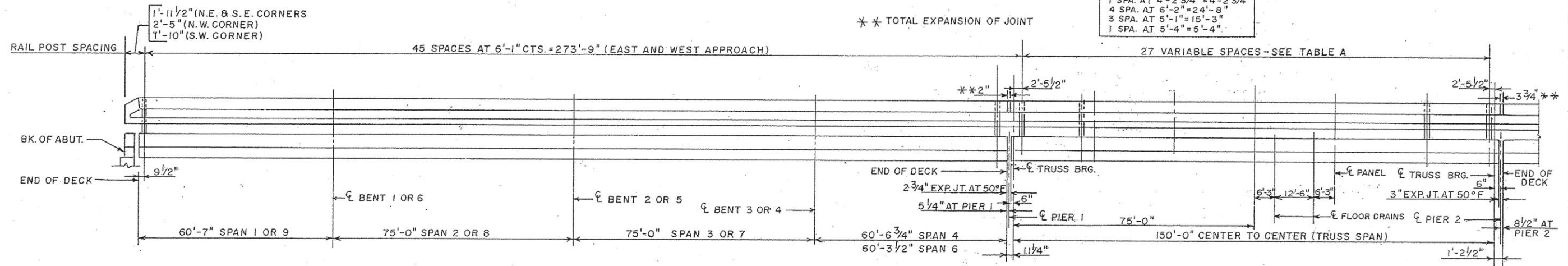
STEEL BRIDGE RAIL AND
STRUCTURAL STEEL DETAILS
F.A.S. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY
RC ENGINEERS, LTD.
CONSULTING ENGINEERS

NOTE: TOTAL EXPANSION OF $1\frac{3}{4}$ " AT ABUTMENTS TO BE ACCOMPLISHED IN CONNECTION OF RAIL TO TRAFFIC BARRIER TERMINAL STD. 2340

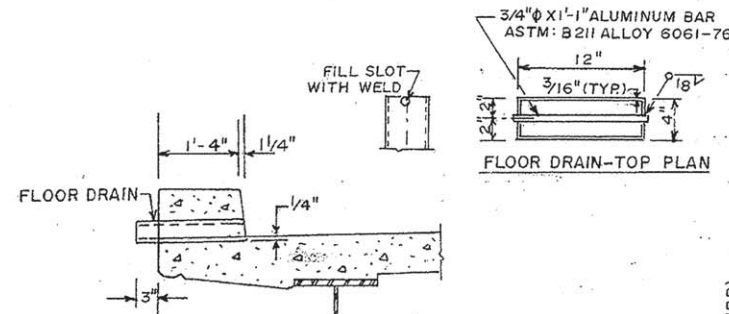
TABLE A

1 SPA. AT 5'-4" = 5'-4"
3 SPA. AT 5'-1" = 15'-3"
4 SPA. AT 6'-2" = 24'-8"
1 SPA. AT 4'-2 3/4" = 4'-2 3/4"
9 SPA. AT 5'-1 1/2" = 46'-1 1/2"
1 SPA. AT 4'-2 3/4" = 4'-2 3/4"
4 SPA. AT 6'-2" = 24'-8"
3 SPA. AT 5'-1" = 15'-3"
1 SPA. AT 5'-4" = 5'-4"

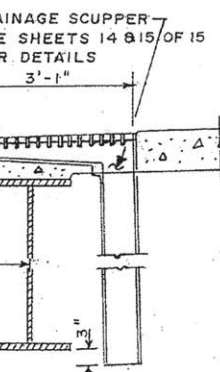
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 461	(*)	TAZEWELL	16	11
FED. ROAD DIST. NO.	ILLINOIS PROJECT BHS-461 (114)			
(*) 93-00010-11-BR				



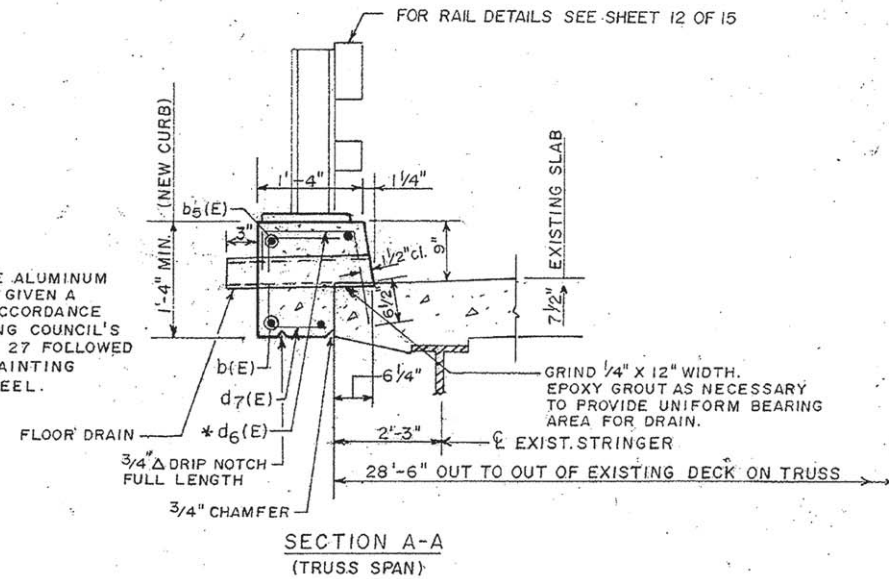
ELEVATION-BRIDGE RAILING



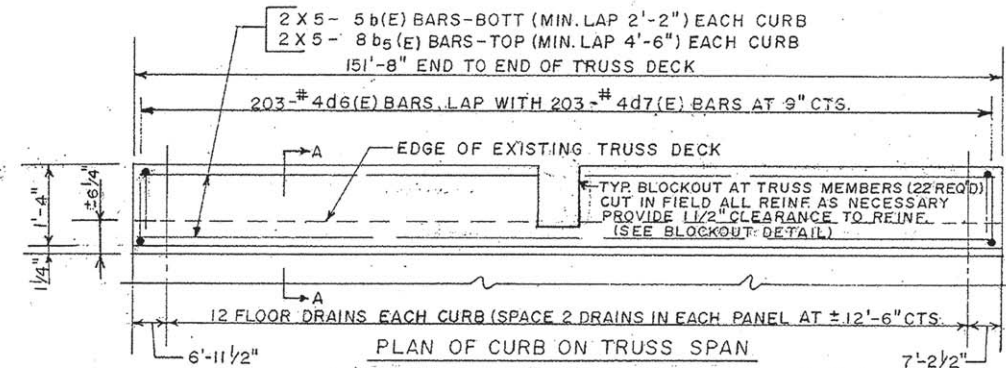
SECTION D-D (SHOWING FLOOR DRAINS)



NOTE: THE EXTERIOR SURFACES OF THE ALUMINUM DRAINS SHALL BE CLEANED AND GIVEN A WASHCOAT PRE-TREATMENT IN ACCORDANCE WITH THE STEEL STRUC. PAINTING COUNCIL'S SPEC. SSPC-SPI. & SSPC-PAINT 27 FOLLOWED BY THE VINYL ENAMEL COAT PAINTING SPECIFIED FOR STRUCTURAL STEEL.



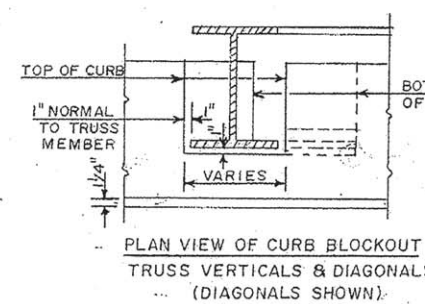
* PROVIDE $\frac{3}{4}$ " ϕ HOLES FOR GROUTING #4 d₆(E) BARS 6 1/2" DEEP INTO EXISTING SLAB. USE EPOXY GROUT APPROVED BY THE DEPARTMENT. (SEE STANDARD SPECIFICATIONS-SECTION 584)



BILL OF MATERIAL-TRUSS SPAN

BAR	NO.	SIZE	LENGTH	SHAPE	
a(E)	3	#5	30'-0"	—	
b(E)	20	#5	32'-1"	—	
b ₅ (E)	20	#8	34'-0"	—	
d ₄ (E)	29	#5	1'-0"	□	
d ₆ (E)	406	#4	2'-9"	□	
d ₇ (E)	406	#4	2'-7"	□	
X ₁ (E)	29	#5	1'-7"	□	
CONCRETE SUPERSTRUCTURE				CU. YD.	18.2
REINF. BARS, EPOXY COATED				POUND	4,100

FOR DETAILS X₁(E) AND d₄(E) SEE SHEET 7 OF 16 FOR LOCATION OF a(E), d₄(E) AND X₁(E) SEE SH. 7 OF 16



Contact 89634 sheet 116

BRIDGE RAIL AND TRUSS CURB DETAILS
F.A.S. ROUTE 461 SECTION 93-00010-11-BR TAZEWELL COUNTY.
R C ENGINEERS, LTD. CONSULTING ENGINEERS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
FAS 461 (*)	(*)	TAZEWELL	16	12	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	BHS-461(114)		

NOTES (*)93-00010-11-BR

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500, Grade B, Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft. lbs. at 0°F.
All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts shall conform to AASHTO M-270, Grade 50.

Bolts, cap screws and nuts shall conform to the requirements of ASTM designation A-307 except that threaded rods, nuts and washers shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices and anchor rods shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per lineal foot for STEEL BRIDGE RAIL.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.

STEEL BRIDGE RAIL expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.

Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.

Expansion joint width shall be "D" at 50° F and shall be adjusted for other temperatures according to Article 503.07(c) of the Standard Specifications.

The Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge shall be a sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Nuts for 1" threaded anchor rods connecting the base plate to the concrete shall be tightened to a snug fit and given an additional 1/8 turn.

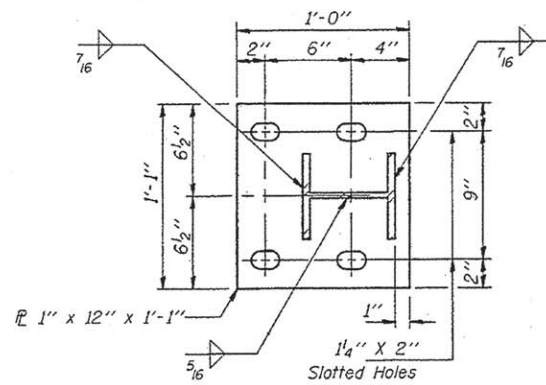
BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail	Lin. Ft.	1,393

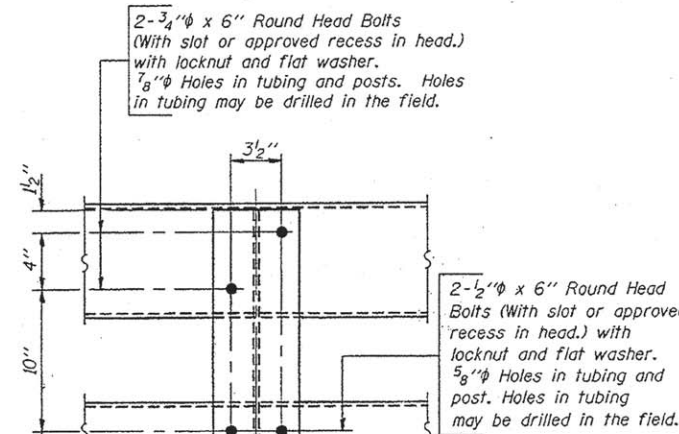
SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 1/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1 1/4"	1'-8"	2"	4"	—

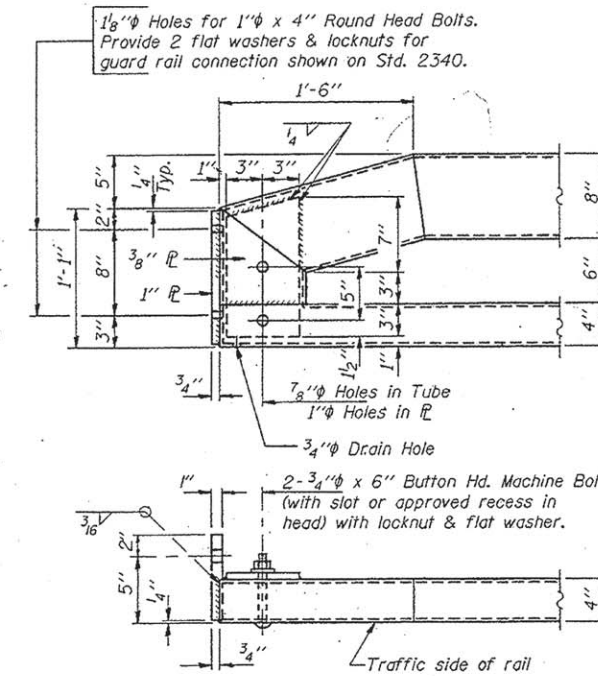
T = Total movement at expansion joint as shown on Sh. 11 of 16.



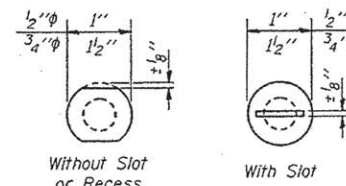
BASE PLATE DETAIL



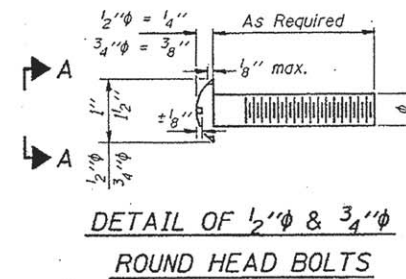
SECTION A-A



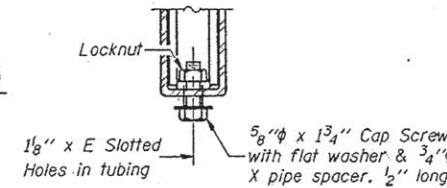
END OF RAIL DETAILS



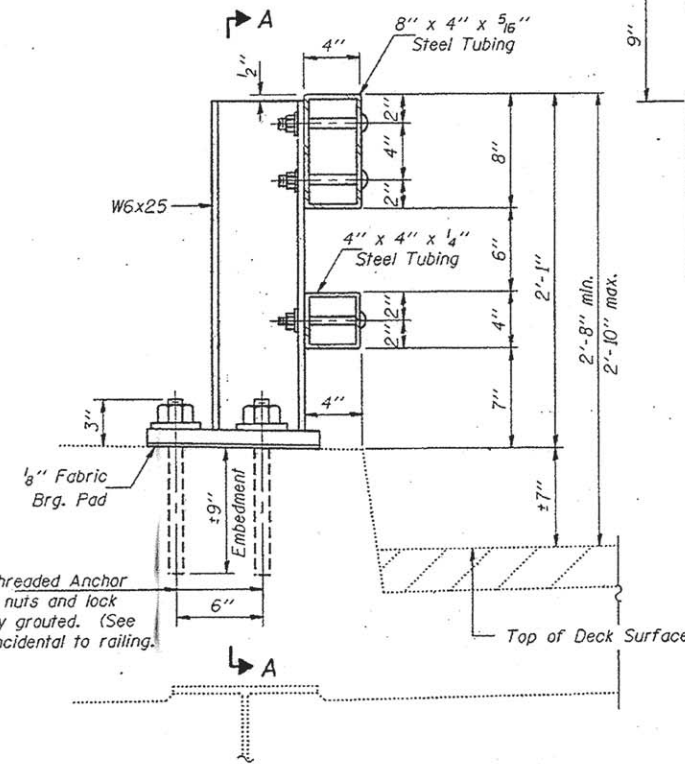
VIEW A-A



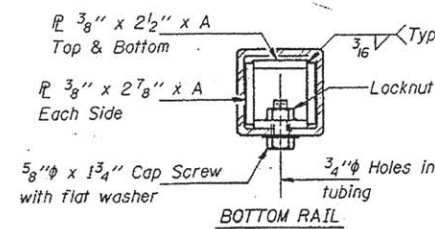
DETAIL OF 1/2" & 3/4" ROUND HEAD BOLTS



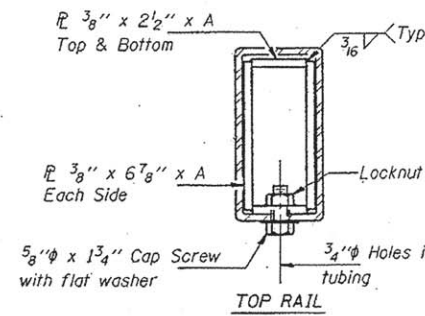
RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTION AT RAIL POST

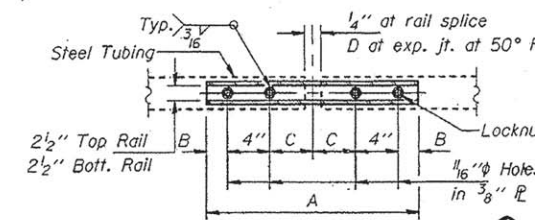


BOTTOM RAIL



TOP RAIL

SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

STEEL BRIDGE RAIL (TYPE 2399)

FAS ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY
R C ENGINEERS, LTD.
CONSULTING ENGINEERS

DESIGNED	J.W.G.
CHECKED	J.J.W.
DRAWN	S.S.K.
DATE	8-23-94

Contract 89634
Sheet 117

JOINT SIZE TABLE

LOCATION	JOINT SIZE	'C' AT 50°F	'D' AT 50°F
ABUTMENTS	2"	2"	1 1/2" MIN.
PIER 2	4"	3"	2 1/2" MIN.

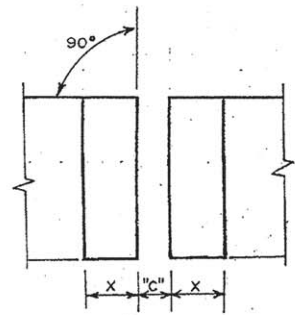
INSTALLATION NOTES

- 1 Install sponge mandrels into positions shown to form flap convolution.
- 2 Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
- 3 Install continuous seal in roadway.
- 4 Install anchor blocks as indicated.

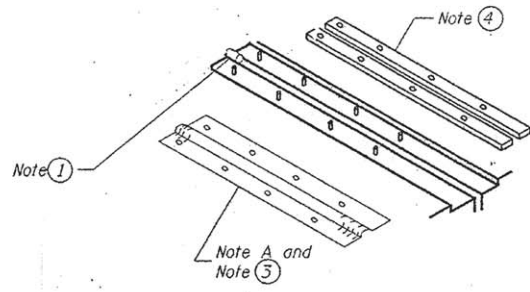
NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.

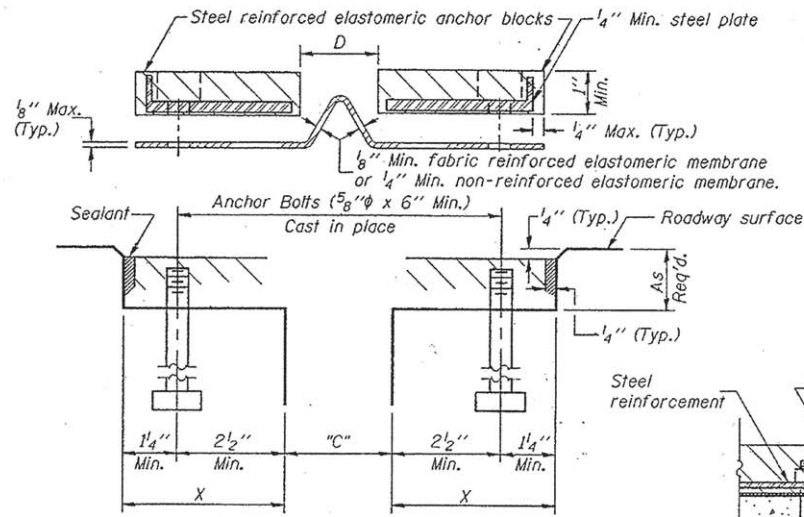


FORMING BLOCKOUT SKETCH

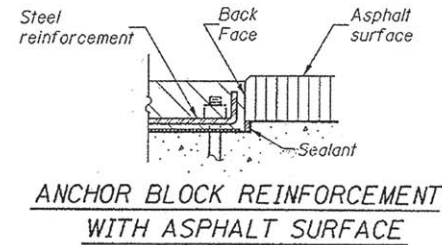


BRIDGE SLAB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSS SECTION

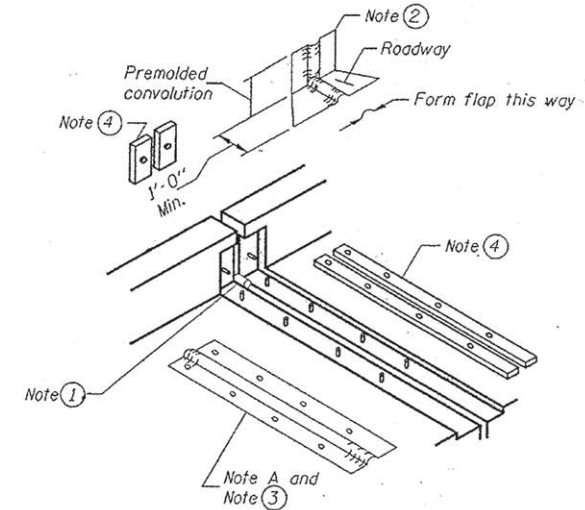


ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

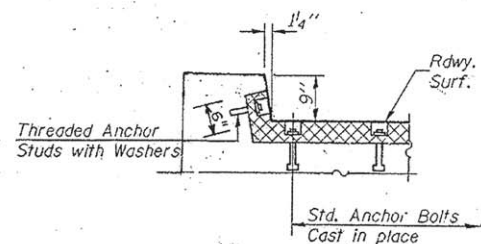
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13
FAS 461	(*)	TAZEWELL	16	13	16 SHEETS
ILLINOIS FED. AID PROJECT: BHS-461(114)					

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.



AT CURB



AT CURB
TYPICAL END TREATMENTS

DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

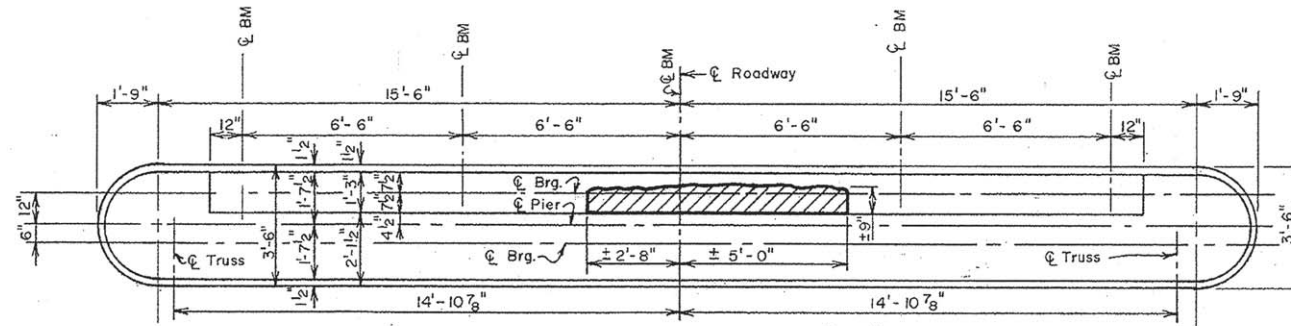
Contact 89634
Sheet 118

CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS AT ABUTMENTS & PIER NO. 2
F.A.S. ROUTE 461 SECTION 93-00010-11-BR TAZEWELL COUNTY
R C ENGINEERS, LTD. CONSULTING ENGINEERS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
461	(*)	TAZEWELL	16	14
FED. ROAD DIST. NO.	ILLINOIS PROJECT BHS-461 (114)			

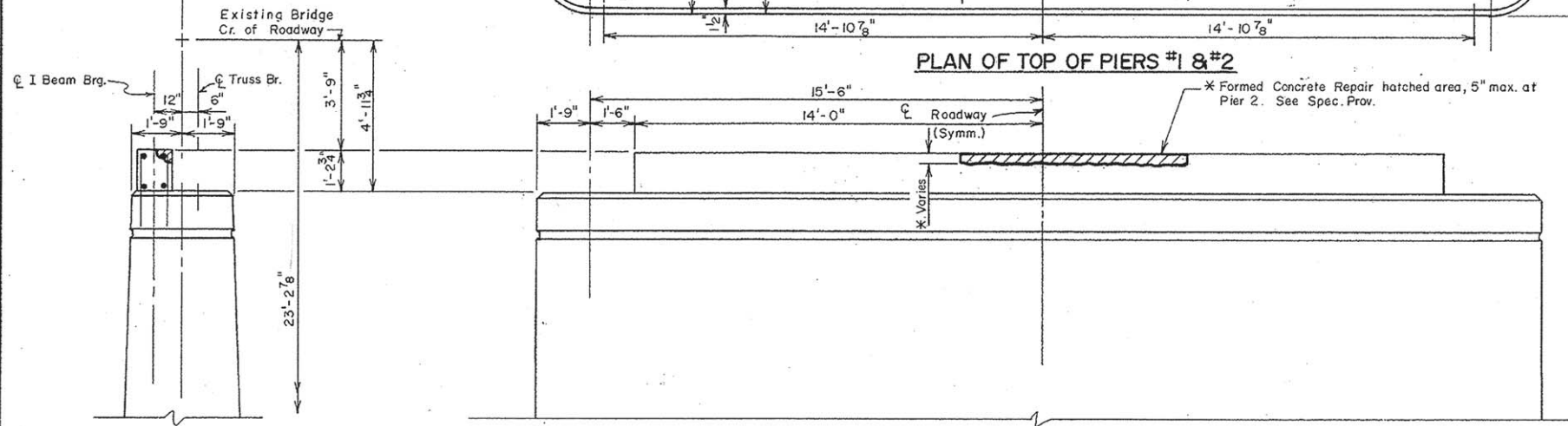
(*) 93-00010-11-BR

Note: The center beam at the east end of Span 6 must be supported while the concrete repair is being accomplished. See Spec. Prov. for Jacking & Cribbing.



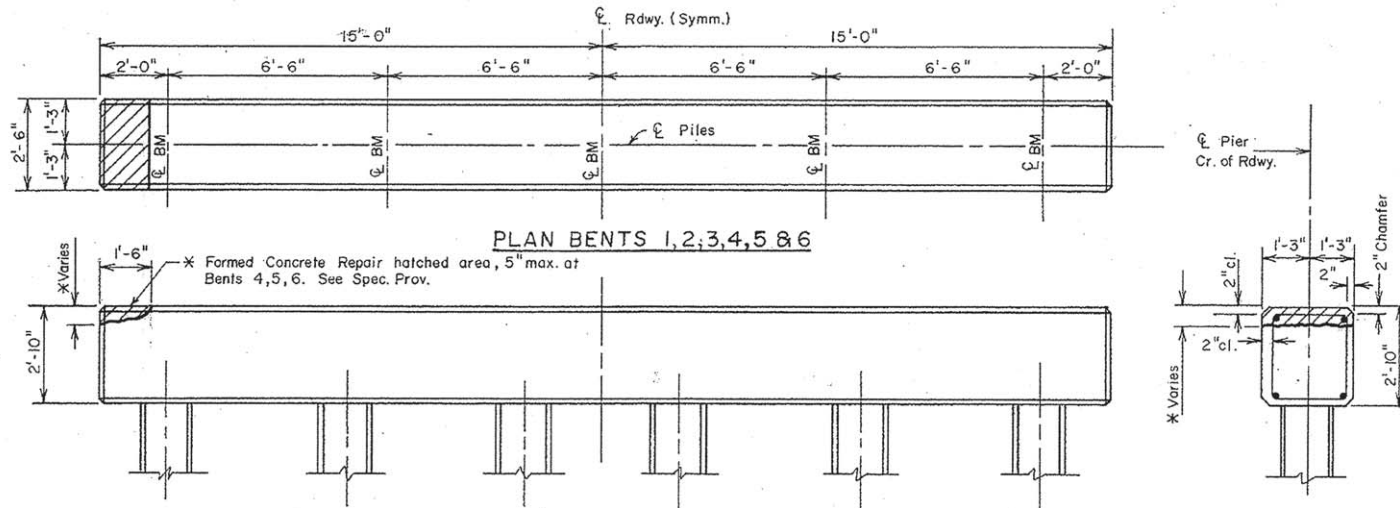
PLAN OF TOP OF PIERS #1 & #2

* Formed Concrete Repair hatched area, 5" max. at Pier 2. See Spec. Prov.



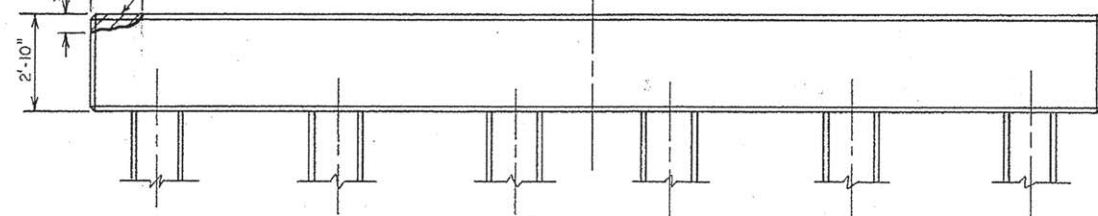
ELEVATION-PIERS #1 & #2

* Note: Similar method of repair to be used for any other spalled areas discovered during construction.



PLAN BENTS 1,2,3,4,5 & 6

* Formed Concrete Repair hatched area, 5" max. at Bents 4,5,6. See Spec. Prov.



ELEVATION-BENTS 1,2,3,4,5 & 6

DESIGNED	JWG
CHECKED	WOG
DRAWN	DLH
DATE	10-20-94

Contract 89634
Sheet 119

BILL OF MATERIAL

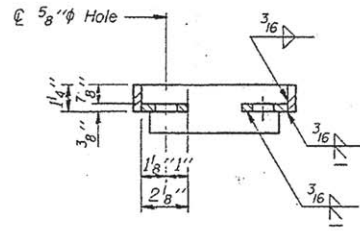
ITEM	UNIT	QUANTITY
Formed Concrete Repair (Depth Equal to or Less Than 5")	Sq.Ft.	17
Jack And Reposition Bearings	Each	1

CONCRETE AND BEARING REPAIR
F.A.S. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY

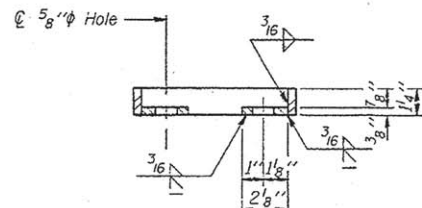
RC ENGINEERS, LTD.
CONSULTING ENGINEERS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

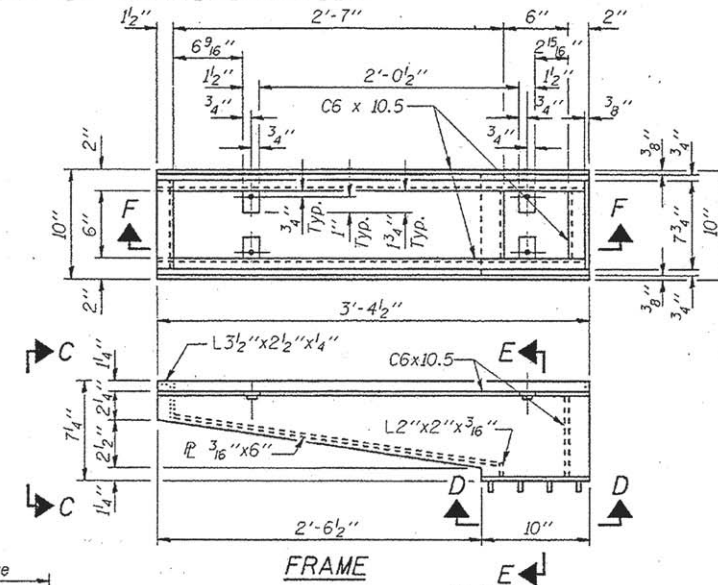
ROUTE NO.	SECTION	COUNTY	SHEET	PROJECT	SHEET NO.
(*)93-00010-11-BR	FAS 461 (*)	TAZEWELL	16	15	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	BHS-461 (114)		



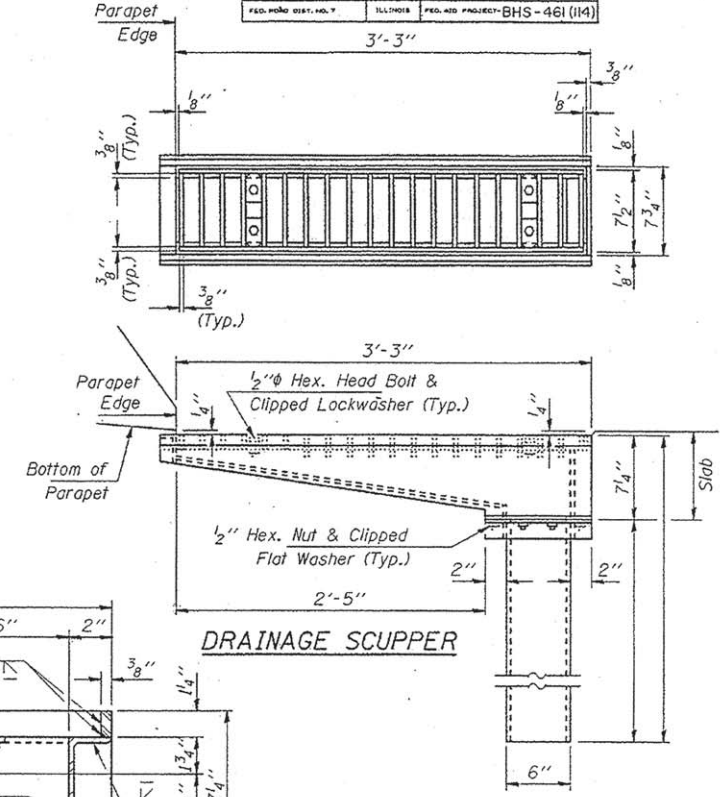
SECTION A-A



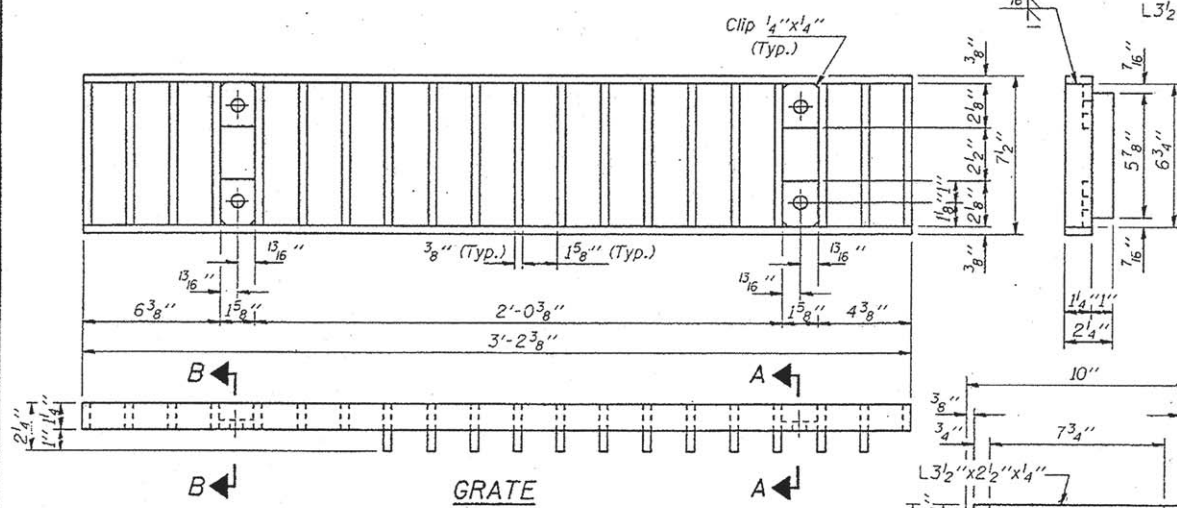
SECTION B-B



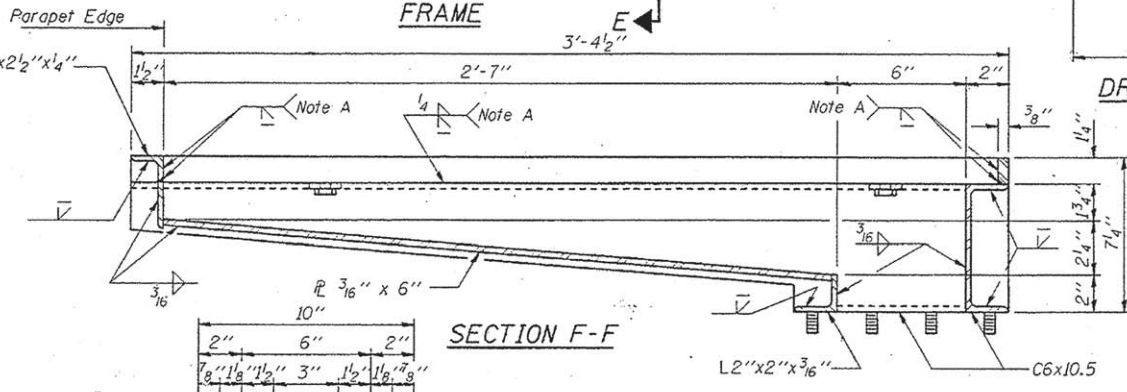
FRAME



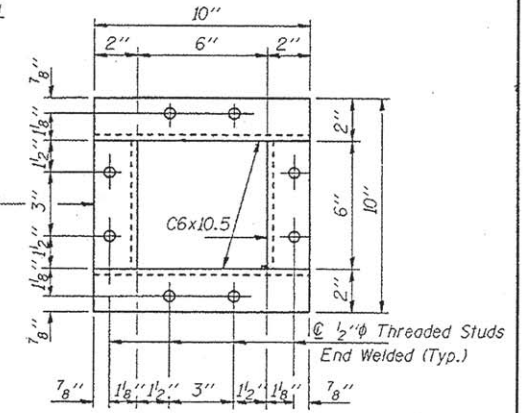
DRAINAGE SCUPPER



GRATE

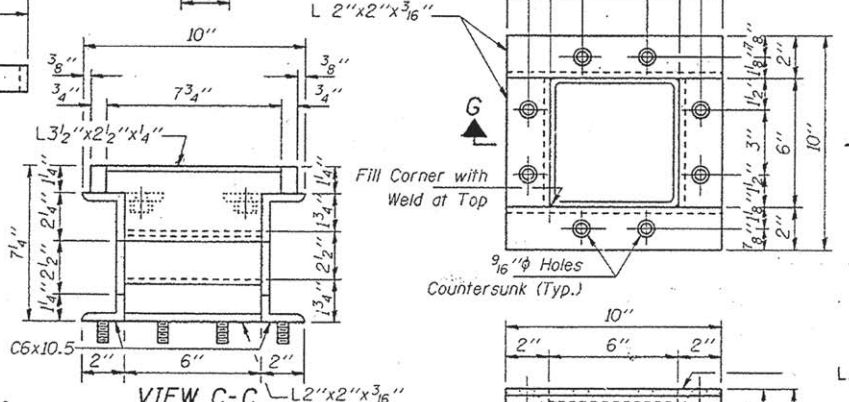


SECTION F-F



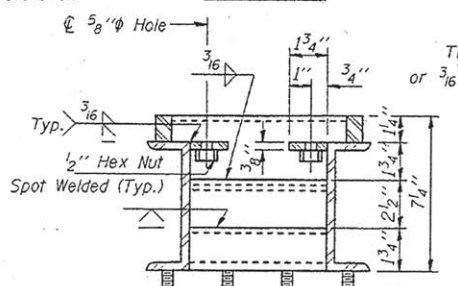
VIEW D-D

Notes:
Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 Grade B, or A501 Structural Steel Tubing.
All other shapes, plates and bars shall conform to the requirements of AASHTO M183.
Bolts, studs, washers and nuts shall conform to the requirements of ASTM A307.
The Grate, Frame and Downspout shall be galvanized after shop fabrication in accordance with AASHTO M111 & ASTM A395.
All bolts, washers and nuts shall be galvanized in accordance with AASHTO M232.
Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper will be paid for at the unit bid price each for "DRAINAGE SCUPPERS."

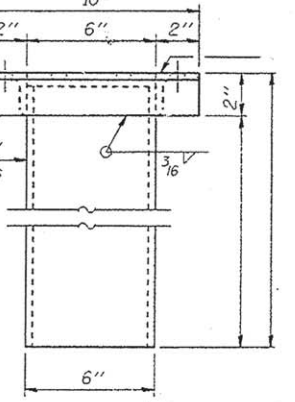


VIEW C-C

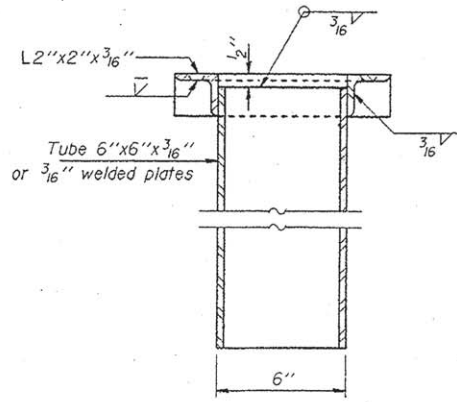
Note A: Surface of welds shall be recessed 1/16\"/>



SECTION E-E



DOWNSPOUT



SECTION G-G

DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

DS-3

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper	Each	12

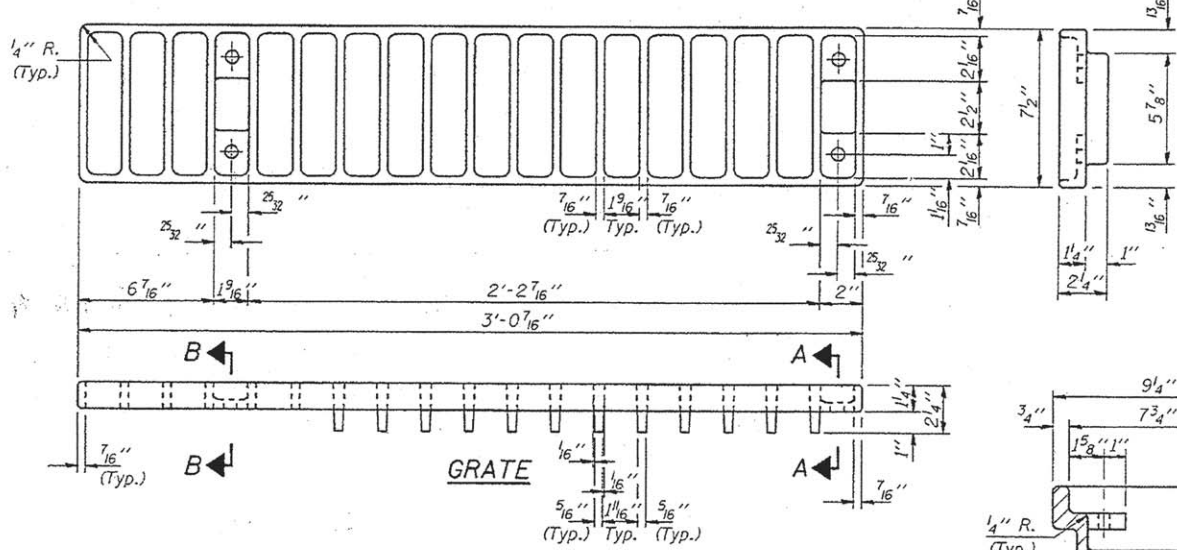
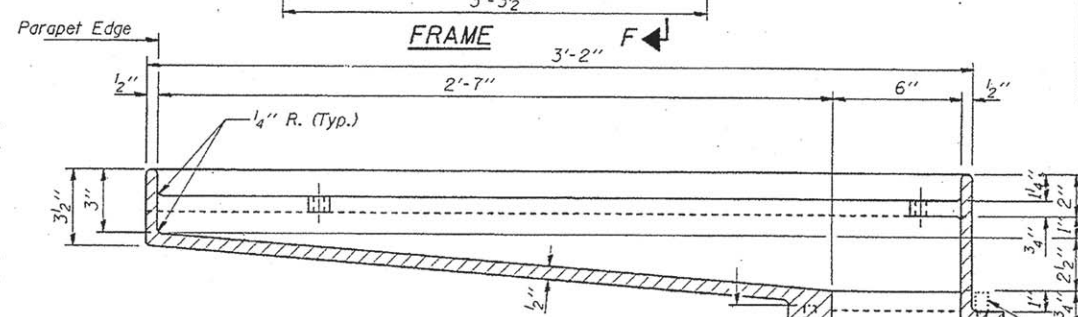
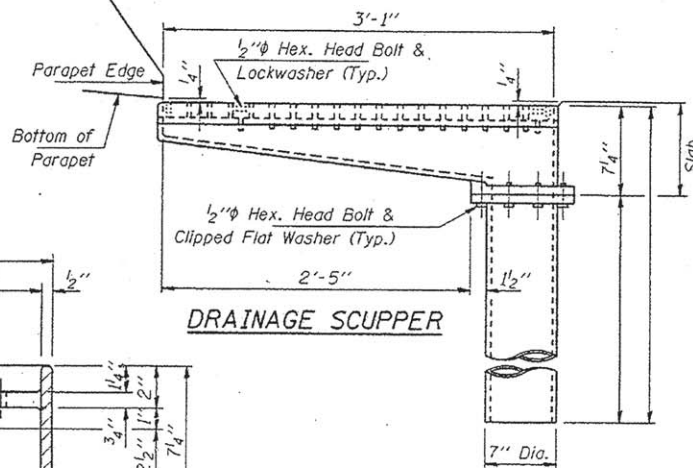
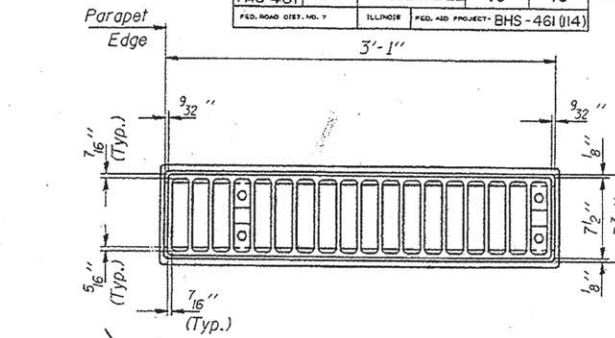
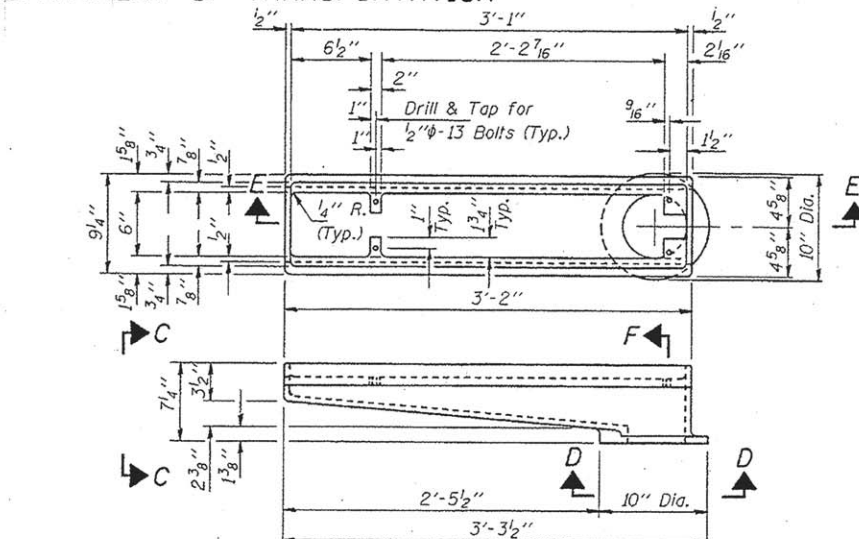
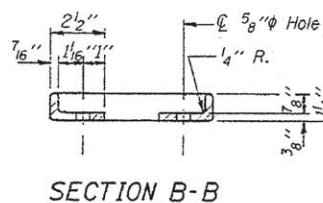
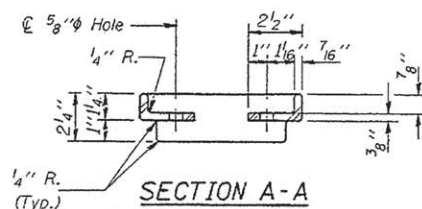
STEEL DRAINAGE SCUPPER
F.A.S. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY
RC ENGINEERS, LTD.
CONSULTING ENGINEERS

Contract 89634, Sheet 120

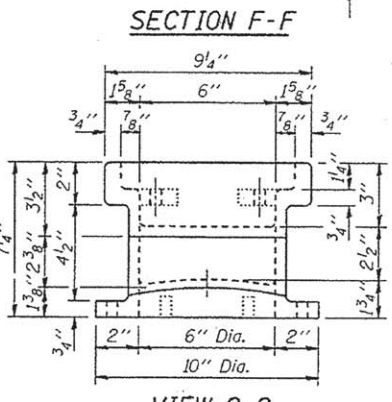
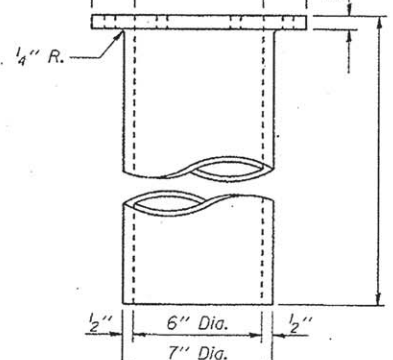
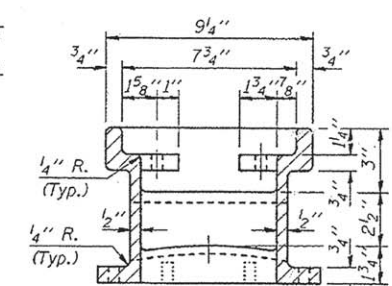
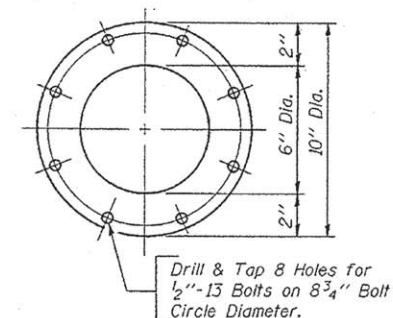
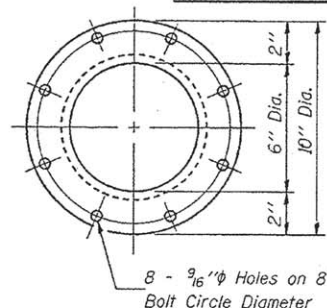
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

(*)93-00010-11-BR

ROUTE NO.	SECTION	COUNTY	DISTRICT	PROJECT	SHEET NO.
FAS 461	(*)	TAZEWELL	16	16	16 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. PROJ. NO.	BHS-461 (14)		



SECTION E-E



Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.
Bolts and washers shall conform to the requirements of ASTM A307.
All bolts and washers shall be galvanized in accordance with AASHTO M232.
As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A193, Type 304.
Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper will be paid for at the unit bid price each for "DRAINAGE SCUPPERS."
The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

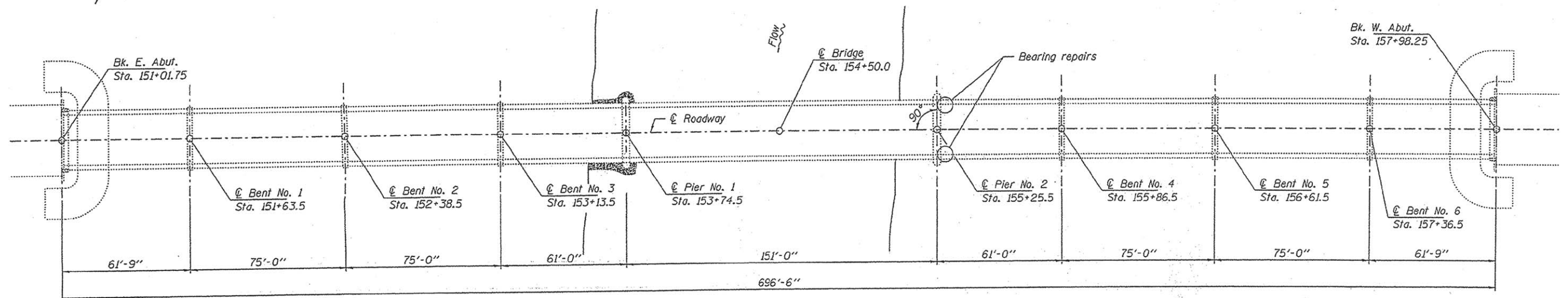
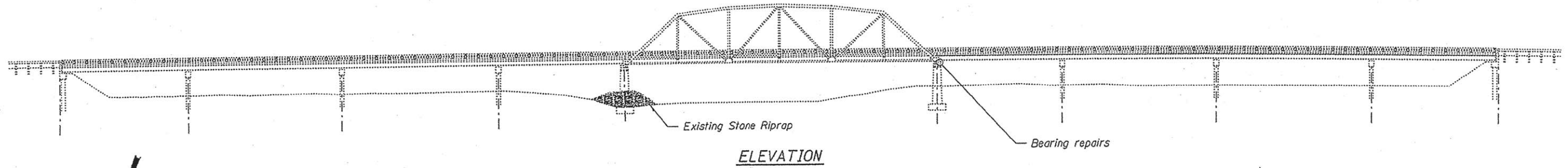
DESIGNED	JWG
CHECKED	JJW
DRAWN	SSK
DATE	8-23-94

DS-4

Contract 89634
Sheet 121

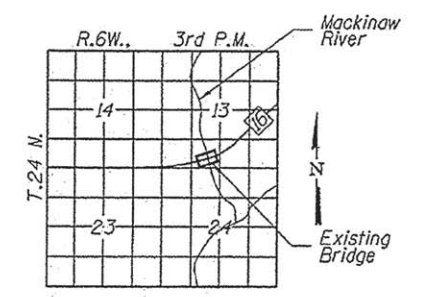
ALTERNATE - CAST IRON
DRAINAGE SCUPPER
F.A.S. ROUTE 461
SECTION 93-00010-11-BR
TAZEWELL COUNTY

R.C. ENGINEERS, LTD.
CONSULTING ENGINEERS



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	Pound	80
Jack and Remove Existing Bearings	Each	2



DESIGN SPECIFICATIONS
 2002 AASHTO Standard Specifications for Highway Bridges
LOADING HS 20-44 (NEW CONSTRUCTION)

DESIGN STRESSES
FIELD UNITS
 $f_y = 36,000 \text{ psi (AASHTO M270 Grade 36)}$

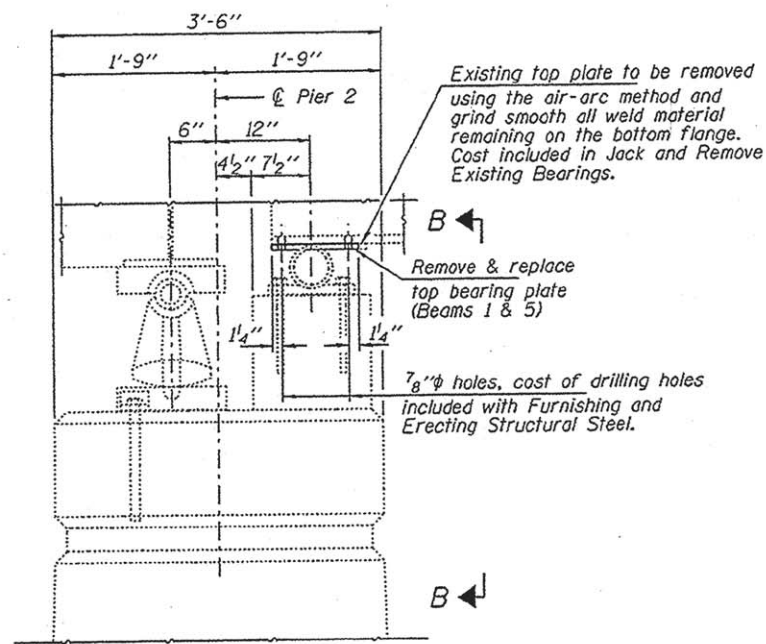
I certify that to the best of my knowledge, information and belief, this bearing repair design is structurally adequate for the design loading shown on these plans. The design is an economical one for the style of structure and complies with requirements of the design specifications shown.

Michael D. Cima 02/24/2014
 ILLINOIS STRUCTURAL NO. 081-5984

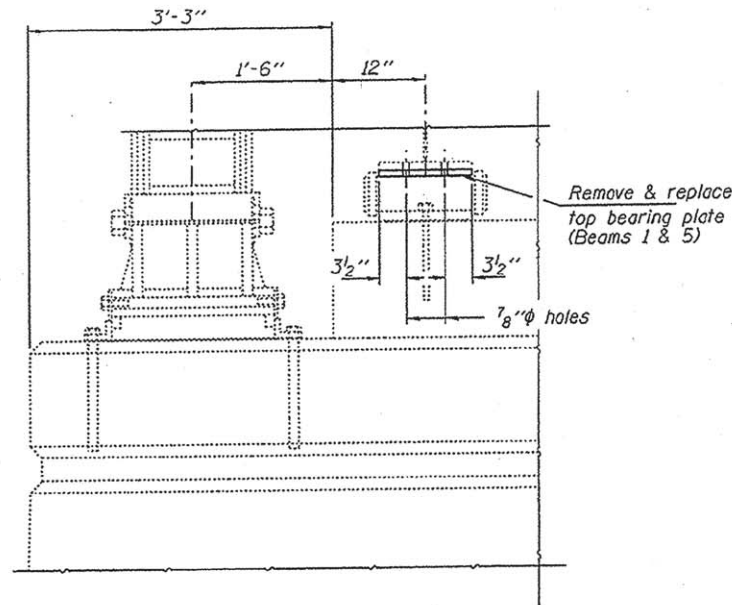


Contract 89634
Sheet 122

FILE NAME = 100118-sh1-repair-brg.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 090-3001	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
2065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 317.545.3400 www.stmengineering.com		CHECKED - M.D.C.	REVISED -			16	07-00010-12-BR	TAZEWELL			
184.000919 ILLINOIS PROFESSIONAL DESIGN FIRM L5/PL/SE CORPORATION		DRAWN - D.A.B.	REVISED -			MANITO RD OVER MACKINAW RIV. CONTRACT NO.					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					



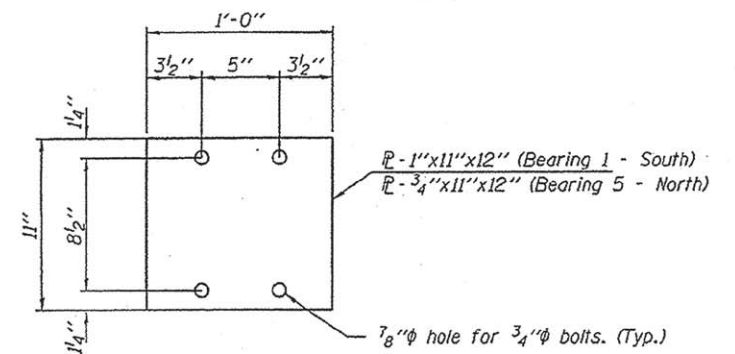
SECTION A-A
(Looking South)



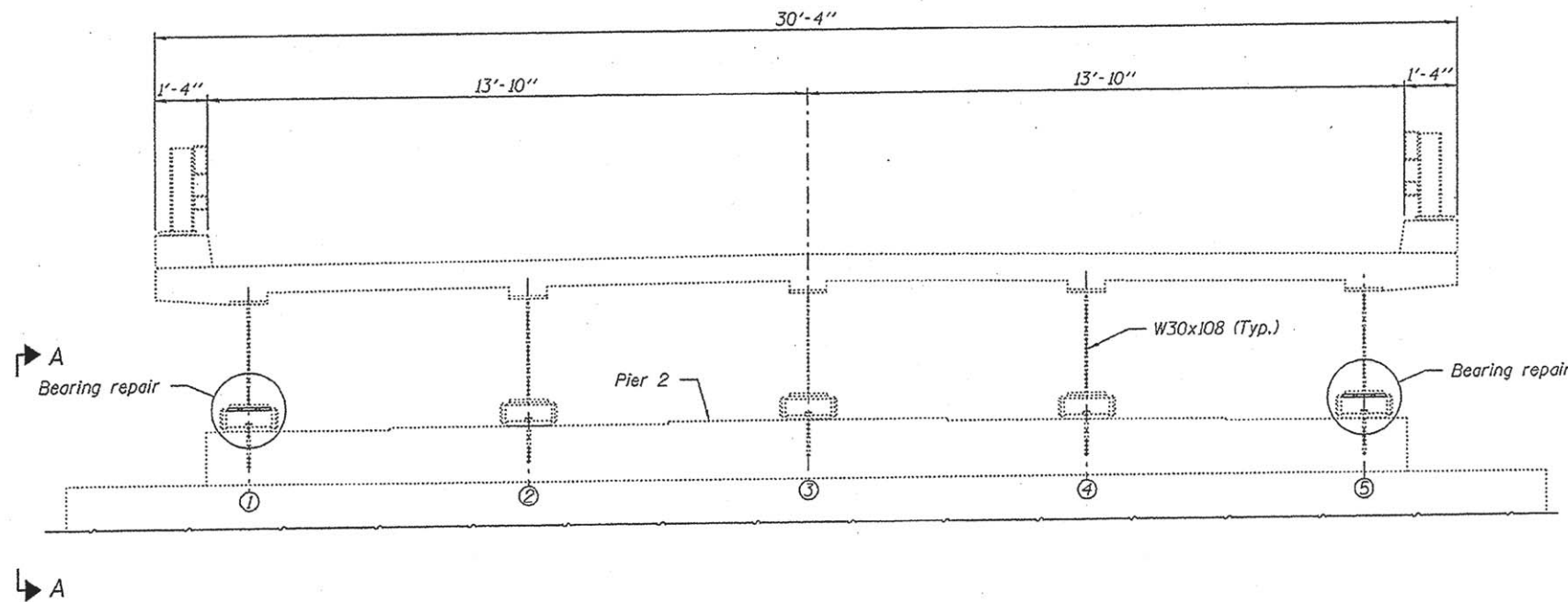
SECTION B-B

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4" φ, holes 7/8" φ, unless otherwise noted. No field welding is permitted except as specified in the contract documents. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No. 5B 7/L. The existing bottom bearing plates and rollers shall be cleaned to remove all loose material. Cost included in Jack and Remove Existing Bearings. A 1/8" and 1/4" adjusting shims shall be provided for each bearing plate in addition to all other plates or shims and shall be placed between the beam and new top bearing plate if required for constant contact between the beam and roller bearing.



TOP PLATE



SUPERSTRUCTURE CROSS SECTION
(Looking East)

JACK AND REMOVE EXISTING TOP BEARING P PROCEDURE

1. The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new top bearing plates prior to commencing any related work.
2. Prior to ordering any material, the Contractor shall verify new top plate thickness required of the bearings so that the beams will be in full contact with the bearings.
3. There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
4. For limitations on lift amounts, see Special Provisions.
5. Only one beam shall be jacked at a time.
6. Jacking against diaphragms is prohibited.
7. One lane of traffic shall be maintained at all times during the jacking process. Two lanes of traffic will be maintained at all other times. Cost included in Jack and Remove Existing Bearings.

PIER 2 BEAM REACTIONS
(Service Loads)

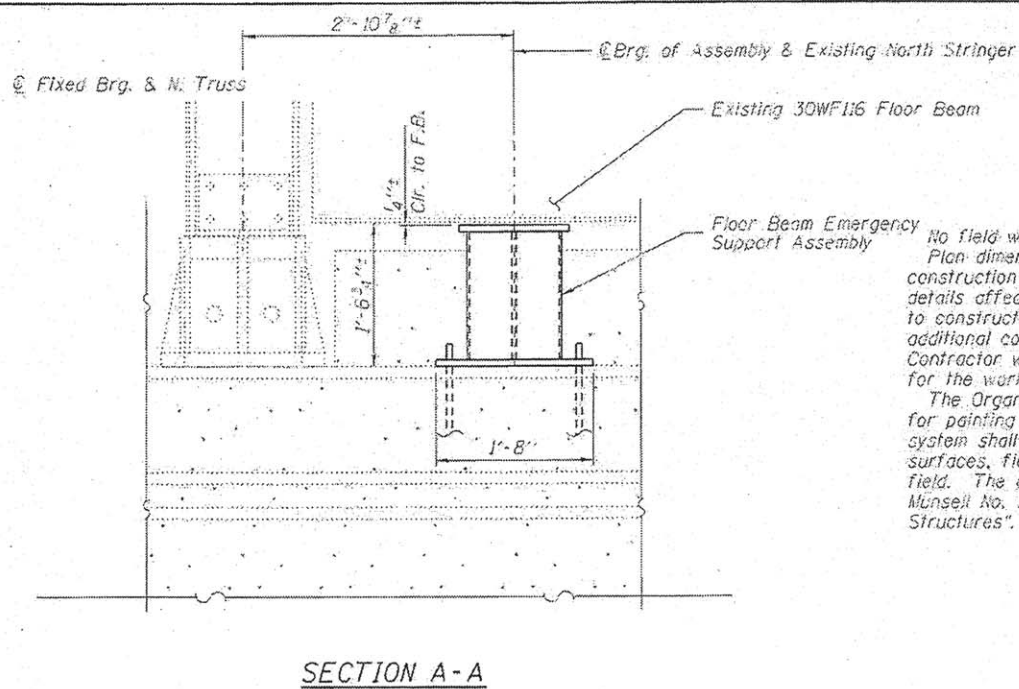
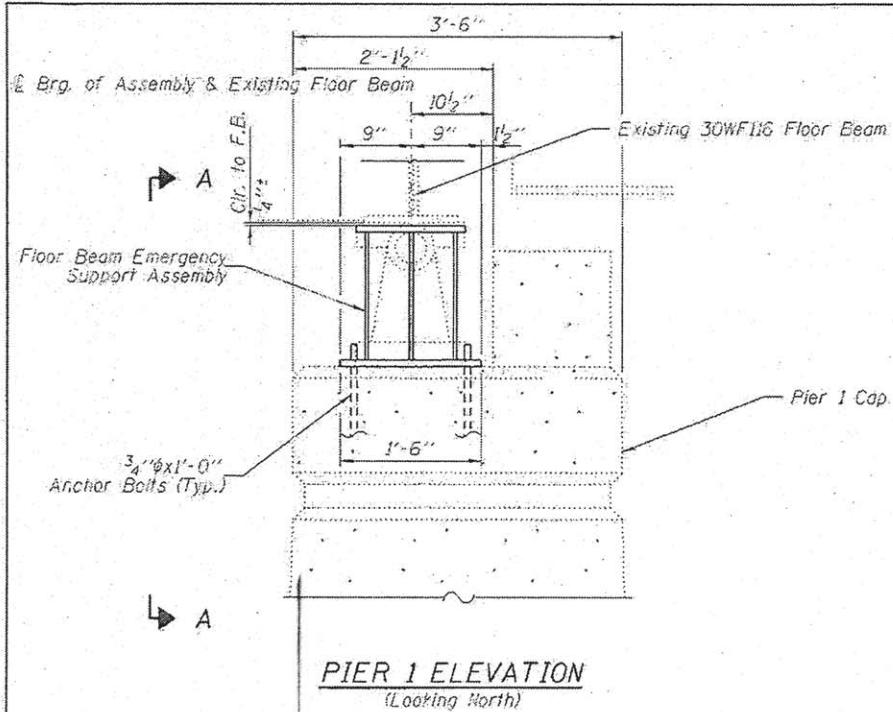
R ₀	(k)	16
R ₄	(k)	44

Min. Jack Capacity = 45 Ton

Contract 89634
Sheet 123

13-00010-00-BR

FILE NAME = 100118-shr-repair-brg.dgn 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.548.3400 www.johnsonmfg.com 184.00059 ILLINOIS PROFESSIONAL DESIGN FIRM LE/PD/SE CORPORATION	USER NAME = PLOT SCALE = PLOT DATE = 2/24/2014	DESIGNED - S.M.S. CHECKED - M.D.C. DRAWN - D.A.B. CHECKED - M.D.C.	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS TAZEWELL COUNTY HIGHWAY DEPARTMENT	BEARING REPAIR DETAILS & GENERAL NOTES STRUCTURE NO. 090-3001 SHEET NO. 2 OF 2 SHEETS	C.H. 16	SECTION 07-00010-12-BR	COUNTY TAZEWELL	TOTAL SHEETS 16	SHEET NO. 123
								MANITO RD OVER MACKINAW RIV.		CONTRACT NO.



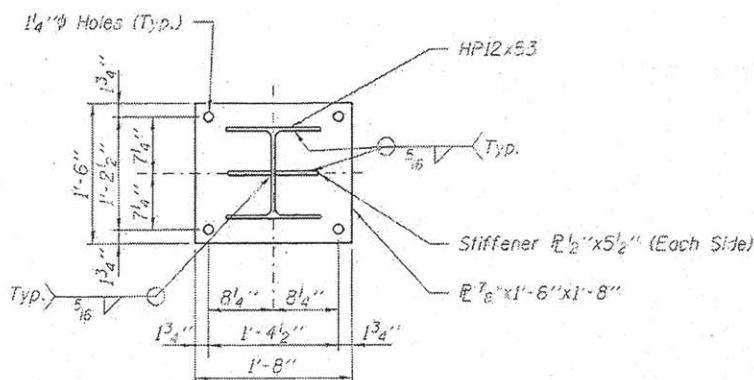
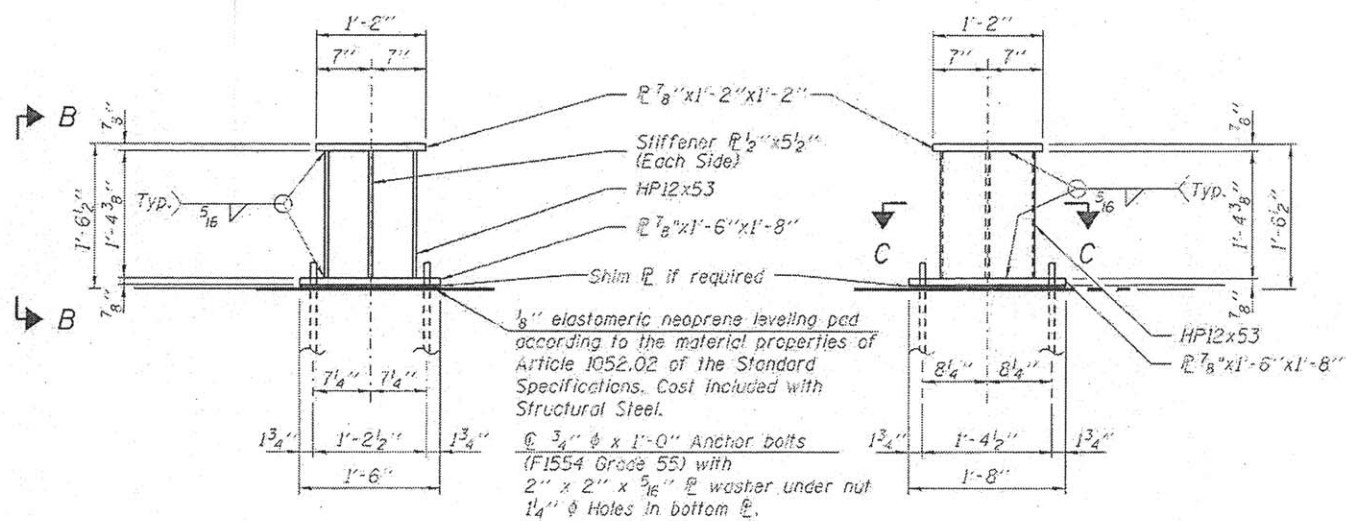
GENERAL NOTES

No field welding is permitted except as specified in the contract documents. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No. 5B 7/1. See Special Provision for "Cleaning and Painting New Metal Structures".

PIER 1 ELEVATION
(Looking North)

SECTION A-A



SUPPORT ASSEMBLY ELEVATION

SECTION B-B

SECTION C-C

Notes:
Two 1/8 in. shims shall be provided for each assembly in addition to all other plates or shims and placed as shown on assembly details.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 55 (Fy=55ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

FLOOR BEAM EMERGENCY SUPPORT ASSEMBLY
(1 Required)

Contract 89634
Sheet 125

FILE NAME = I02110-shr-FDemergency2014.dwg	SER NAME = #USER#	DESIGNED - S.M.S.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS & GENERAL NOTES STRUCTURE NO. 090-3001	C.H. 16	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -			TAZEWELL				
1500 STATE STREET, SUITE 201 SPRINGFIELD, ILLINOIS 62761 ILLINOIS PROFESSIONAL DESIGN # 0018 15/10/2009		CHECKED - M.D.C.	REVISED -			CONTRACT NO.				
		DATE - 10/29/14	REVISED -			ILLINOIS FED. AID PROJECT				
PLOT SCALE = #SCALE#		DATE - 10/31/2014		SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.			